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ABSTRACT

In 1988, a study was conducted of the operating costs of the 15 branch campuses and centers operated by the six Florida State universities and of nine representative community colleges in the state. Information provided by the colleges revealed that: (1) in comparison to their main campuses, branch campuses and centers tended to be less expensive per student credit hour and per headcount student for library services and plant operations/maintenance, more expensive for institutional support and student services, and roughly comparable for instruction; (2) there were large differences among the branch campuses and centers on all indicators of cost, including expenditures per student credit hour and per headcount student, ratios of support to instructional expenditures, student credit hours per full-time equivalent position, and the proportion of on-site expenditures to those allocated from the main campus; (3) the branch campuses and centers as a group showed evidence of diseconomies of scale; (4) considerable variation was noted among the community college campuses in expenditures per student credit hour and per headcount student, with the most expensive campus spending 2.1 times as much per student credit hour as the least expensive campus; and (5) the on-site share of total community college campus expenditures was highest in instruction, plant operations/maintenance, and library resources, while lowest in institutional support. Recommendations for minimizing costs are included. Two consultants from the National Center for Higher Education Management Systems designed the survey instruments for generating the operational cost data and carried out an analysis of the completed surveys. Their report and the survey instruments are appended. (UCM)

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A STUDY OF OPERATING COSTS OF BRANCH CAMPUSES AND CENTERS AT STATE UNIVERSITIES AND COMMUNITY COLLEGES

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Report and Recommendations of the Postsecondary Education Planning Commission

JC 880 146

1988 - REPORT 2

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POSTSECONDARY EDUCATION PLANNING COMMISSION

A STUDY OF OPERATING COSTS OF BRANCH CAMPUSES AND CENTERS AT STATE UNIVERSITIES AND COMMUNITY COLLEGES

Prepared in Response to
Specific Appropriations 534 through 537A
of the
1987 General Appropriations Act
(Chapter 87-98, Laws of Florida)

1988 - Report 2

January 21, 1988

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EXECUTIVE SUMMARY

In proviso language accompanying Specific Appropriations 534 through 537A, the 1987 Legislature provided funds for the Postsecondary Education Planning Commission to "study the operating costs of branch campuses and centers at community colleges and universities to identify strategies for minimizing additional costs of branch campus and center operations over the same services provided at main campuses. The report shall be submitted by February 1, 1988, to the State Board of Education, the Speaker of the House of Representatives and the President of the Senate."

The enabling legislation which created the Postsecondary Education Planning Commission assigned to the Commission the duty to "advise the State Board of Education regarding the need for and location of new institutions and campuses of public postsecondary education." In 1983, the Commission's responsibility was expanded to: "recommend to the State Board of Education and the Legislature the establishment of additional branch campuses of postsecondary educational institutions. No branch campus may be established without a review by the Commission and formal authorization by the Legislature" (Section 240.147(7), Florida Statutes).

The Commission's 1986 Study of the Establishment of New Centers and Campuses and Long Range Potential Site Plans included an inventory of all branch campuses and centers of community colleges and state universities. In addition, this study established common definitions for campuses and centers within the state university and community college systems. These definitions have been incorporated in the Florida Administrative Code and provide the framework for the current study. The Board of Regents and the State Board of Community Colleges rules also describe special purpose centers and instructional sites which are characterized by their limited scope. Emphasis in the current study, however, was limited to the costs of operating the branch campuses and centers. Technically there is no differentiation between main and branch campuses in the community college system. For purposes of this study, multicampus colleges in the community college system and those with joint-use facilities were selected for analysis.

In January 1987, the Board of Regents submitted to the Legislature a new funding methodology for the State University System. With regard to branch campuses and centers, the Board's Technical Advisory Group recommended that "each university with one or more branch campuses or centers should receive additional Administrative Direction and Support Services (ADSS) funding to provide the necessary general support services on such branch campuses and centers." The 1987 Legislature authorized the Board to implement part of the new funding formula but to conduct further analysis in certain areas including "an evaluation of the cost associated with the operation of branch campuses, both instruction and research as well as administrative." Thus, the Board of Regents and the Commission received similar proviso language from the 1987 Legislature as it relates to obtaining and analyzing operating costs of branch campuses and centers at state universities, with the Commission having the additional responsibility for community colleges.

In September 1987, the Commission Chairman directed the Planning Committee to produce a report for the full Commission on the operating costs of branch campuses and centers at state universities and community colleges. Members of the Planning Committee include Chairman Rayma Page, Tim Brantley, Ralph Hogges and Bob Mautz. The study was addressed at three Planning Committee meetings.

Staff of the State Board of Community Colleges and Board of Regents were directly involved as the study progressed. Information not available from the state boards was requested from the institutions selected for participation. Information on current methods for analyzing costs of branch campuses and centers was solicited from other states as well.

The Board of Regents Technical Advisory Group concurrently evaluating the costs of operating branch campuses and centers in state universities was also involved in the Commission's study. In initial meetings with the Technical Advisory Group, it was determined that joint data collection should occur to more efficiently comply with the similar legislative directives given to the Commission and the Board of Regents.

Legislative proviso directed that the current operating costs of branch campuses and centers be analyzed. The six state universities that have branch campuses and centers, and the 15 branches and centers at these institutions, were included in the study. In addition, nine community colleges were selected to participate. The community colleges chosen for the analysis were broadly representative in terms of location (both urban and rural colleges were selected from throughout the State) and configuration (colleges with small and large campuses and centers were selected).

To comply with the legislative charge, Commission staff first examined the cost information available from the Board of Regents and the State Board of Community Colleges and determined that, in their current form, the data could not be utilized. For example, the Board of Regents systematically obtains data on the operating costs of an entire institution but not specifically for each branch campus or center. Similarly, the State Board of Community Colleges obtains aggregate data for each of the 28 community colleges. Although cost information on separate campuses and centers of community colleges is provided by certain institutions, the data are not presented in a standard format and thus are not appropriate for comparison.

Therefore, to assist with this effort, the Commission contracted with Dr. Paul Brinkman and Dr. Dennis Jones of the National Center for Higher Education Management Systems (NCHEMS) to design the survey instruments for generating operational cost data for branch campuses and centers, and to analyze the completed cost surveys. The consultants' report and survey instruments are contained in Appendix A and B, respectively. A discussion of the major findings of the report and the implications of the analyses are presented in Chapter III.

This technical report contains an array of information and analyses related to the operating costs of branch campuses and centers in state universities and community colleges. Numerous tables for displaying this information have been included, and certain issues that emerge from the data relating to operating costs have been identified. While information on operating costs at individual branch campuses and centers in state universities and community colleges is not included in the report, these data can be obtained from the Commission's office on request.

Unlike most Commission reports, this study presents a quantitative assessment of the costs of operating branch campuses and centers in Florida that serves as an initial database. As such, it did not lead to numerous recommendations. Nonetheless, several conclusions arose from the analysis of the data that assist in formulating recommendations for minimizing operating costs as called for in the legislative proviso to the Commission.

University Branch Campuses and Centers

Compared to their main campuses, branch campuses and centers tend to be less expensive per student credit hour and headcount student for library services and plant operations and maintenance, more expensive for institutional support and student services, and roughly comparable for instruction. It is important to keep in mind that these comparisons are approximations and not precise measures.

The survey revealed large differences among the branch campuses and centers on virtually all indicators of cost whether they be expenditures per student credit hour or per headcount student, ratios of support to instructional expenditures, student credit hours per FTE position, or the proportion of on-site expenditures to those allocated from the main campus.

Looked at statistically, the branch campuses and centers as a group show evidence of diseconomies of scale, that is, their costs per student credit hour would tend to be lower if their enrollments were higher. Branch campuses and centers in stand-alone facilities and those in joint-use facilities exhibit a wide range of cost behavior. Comparing median values for the two groups, the branch campuses and centers in joint-use facilities have lower expenditures per student credit hour in the areas of library services and plant operations and maintenance. Instructional costs per weighted student credit hour are somewhat higher at the joint-use facilities.

Recommendations:

1. **Each state university with branch campuses or centers, in collaboration with the Board of Regents, should examine alternatives to reduce the cost of coordination and the movement of human resources inherent in the multiple site structure.**

2. **In accordance with the Master Plan for Florida Postsecondary Education and the State goals for access to higher education, the following strategies should be considered to minimize operating costs at branch campuses and centers:**

    a. **Restrict the nature and extent of the curriculum.**

b. Target at least some support services at minimally adequate levels rather than at main campus levels.

c. Establish minimum enrollment targets.

3. State universities should routinely compare the cost-effectiveness of duplicating main campus services, using main campus services as needed, sharing resources with another institution, or changing the level of service.

4. The Board of Regents should continue to examine and develop policy for allocating costs from the main campuses to the branch campuses and centers. As noted in the 1987 Legislative proviso, "the policy shall stipulate that all recurring program funding be converted to enrollment generated funding at the end of the third year of program development as provided for the new Lakeland Center."

Community College Campuses and Centers

Considerable variation was noted among the community college campuses and centers in expenditures per student credit hour and per headcount student in every area examined. This variation was largest in instruction. For all instructional and support functions combined, the most expensive campus spent 2.1 times as much per student credit hour as the least expensive campus. Variations in instructional programs, size of campus, clientele, and use of adjunct staff no doubt account for most of these differences in unit expenditures and FTE staff utilization rates.

Central office resources were allocated to the individual campuses in an institution in proportion to the student credit hours generated by each of the campuses and centers. The on-site share of total campus expenditures was highest in instruction, plant operations and maintenance, and library resources, and lowest in institutional support. Among campuses, the greatest variation in the share of total expenditures occurring on-site was in institutional support. Evidence was found that at least some support services are less expensive when provided centrally than when they are provided on-site at the individual campuses.

Recommendations:

5. The State Board of Community Colleges should continue to analyze cost variations among campuses and centers, and promote economical practices whenever possible.

6. Individual community colleges, in cooperation with the State Board of Community Colleges, should explore further the relative efficiencies of centrally-produced support services versus services produced at the campuses and centers.

I. INTRODUCTION

In proviso language accompanying Specific Appropriations 534 through 537A, the 1987 Legislature provided funds for the Postsecondary Education Planning Commission to "study the operating costs of branch campuses and centers at community colleges and universities to identify strategies for minimizing additional costs of branch campus and center operations over the same services provided at main campuses. The report shall be submitted by February 1, 1988, to the State Board of Education, the Speaker of the House of Representatives and the President of the Senate."

Background to Legislative Charge

The Master Plan for Florida Postsecondary Education established principles for the creation of branch campuses to meet emerging needs for undergraduate education in the growing areas of Florida. The first principle is that great restraint should be exercised in approving new branches or centers. Second, detailed criteria for the evaluation of proposals for new branches should be developed and strictly adhered to. The Master Plan recommended that these criteria include needs assessments, examinations of institutional capacity, and "educationally and economically significant tests." Third, upon determination of compelling need, the two-plus-two approach should be utilized to develop new branches that "fully utilize joint programs and joint facilities," thereby enhancing student transfer and decreasing capital expenditures.

The enabling legislation which created the Postsecondary Education Planning Commission assigned to the Commission the duty to "advise the State Board of Education regarding the need for and location of new institutions and campuses of public postsecondary education." In 1983, this responsibility was expanded and the Commission is now required to: "recommend to the State Board of Education and the Legislature the establishment of additional branch campuses of postsecondary educational institutions. No branch campus may be established without a review by the Commission and formal authorization by the Legislature" (Section 240.147(7), Florida Statutes).

The Commission's 1986 Study of the Establishment of New Centers and Campuses and Long Range Potential Site Plans included an inventory of all branch campuses and centers of community colleges and state universities. In addition, this study established common definitions for campuses and centers within the state university and community college systems. These definitions have been incorporated in the Florida Administrative Code and provide the framework for the current study. They include:

Community Colleges (6H-1.040)

- **Campus** is defined as an instructional and administrative unit of a community college, consisting of college owned facilities and staffed primarily by full-time personnel. It houses a full range of instructional services and of institutional, instructional, and student support services. Facilities and other resources are sufficient to accommodate at least one thousand (1,000) full-time equivalent students.

- **Center** is defined as an instructional and administrative unit of a community college with limited support services. It consists of college owned or unowned facilities and is staffed by full-time personnel. It does not necessarily offer a full range of instructional programs or courses.

State Universities (6C-8.009)

- **Main Campus** is defined as the focal point of university educational and administrative activities, authorized by Section 240.2011, Florida Statutes.

- **Branch Campus** is defined as an instructional and administrative unit of a university that offers students upper-division and graduate programs in high demand disciplines as well as range of support services, where some research may be conducted, and which has a campus administrator who reports to the central administration of the main campus. The process for establishment of a new branch campus requires approval by the Board and development of the three-year priority list, as well as long-term needs for facilities construction. In its request for authority to establish a branch campus, a university shall submit a report regarding the long-term requirements for programs relating to its mission statement and course offerings. The Bay Vista Campus of Florida International University shall be an exception to this definition inasmuch as this particular campus offers lower-division coursework, as well.

- **Center** is defined as an instructional unit of a university or universities that offers students a limited range of instructional programs or courses. The head of a center reports to an academic officer on the main or a branch campus. Establishment of new centers requires an assessment of needs and approval of the three-year priority list and long-term needs for facilities by the Board. In submitting its request for authority to establish a center, a university shall submit a report regarding the long-term requirements for programs relating to the mission statement and course offerings.

The Board of Regents and the State Board of Community Colleges rules also describe special purpose centers and instructional sites which are characterized by their limited scope. Emphasis in the current study, however, is limited to the costs of operating the branch campuses and centers described by the above definitions. Technically there is no differentiation between main and branch campuses in the community college system. For purposes of this study multicampus colleges in the community college system and those with joint-use facilities were selected for analysis.

Another study conducted by the Commission in 1985, Joint-Use Facilities For Postsecondary Education in Florida, examined funding questions related to both capital outlay (planning and construction) and operations (use). Descriptions of the capital outlay funding and the operation of 13 joint-use facilities in existence at the time of the 1985 study provided useful background information for the operating cost study.

In January 1987, the Board of Regents submitted to the Legislature a new funding methodology for the State University System. With regard to branch campuses and centers, the Board's Technical Advisory Group recommended that "each university with one or more branch campuses or centers should receive additional Administrative Direction and Support Services (ADSS) funding to provide the necessary general support services on such branch campuses and centers." The subgroup further recommended a set of financial resources for six different sizes (ranging from 2,000 FTE to 100 FTE) of branch campuses or centers including institutional support services; student services; library resources; plant operation and maintenance; and faculty travel.

The 1987 Legislature authorized the Board of Regents to implement part of the funding formula but to conduct further analyses in certain areas including "an evaluation of the costs associated with the operation of branch campuses, both instruction and research as well as administrative." A Board of Regents update on the new funding methodology, which must contain an evaluation of the costs of operating branch campuses, was also due to the Legislature on February 1, 1988.

Another modification in funding policy implemented by the 1987 Legislature was a charge to the Board of Regents

> to implement a three year program development policy for all programs initiated with program funding since FY 1985-86. The policy shall stipulate that all recurring program funding be converted to enrollment generated funding at the end of the third year. The enrollment funding shall correspond to the enrollment level for which the program development funds were provided. Funds are provided for the new Lakeland Center in accordance with the three year program development policy.

This proviso applies only to the State University System and not to community colleges. It provides a basic framework for funding new programs, branch campuses and centers within the State University System. Although this policy had existed as an unwritten understanding for the funding of certain branch campuses in the past, it had not been consistently implemented.

Commission Activities

In September 1987, the Chairman of the Commission directed the Planning Committee to produce a report for the full Commission on the operating costs of branch campuses and centers at state universities and community colleges. Members of the Planning Committee include Chairman Rayma Page, Tim Brantley, Ralph Hogges and Bob Mautz. This study was discussed at three Planning Committee meetings.

Staff of the State Board of Community Colleges and Board of Regents were directly involved in the study. Information not available from the state boards was requested from the institutions selected for participation. Information on current methods for analyzing costs of branch campuses and centers was solicited from other states as well.

The Board of Regents Technical Advisory Group concurrently evaluating the costs of operating branch campuses and centers was also involved. In initial meetings with the Technical Advisory Group, it was determined that joint data collection should occur to more efficiently comply with the similar legislative directives given to the Commission and the Board of Regents.

Legislative proviso directed that the current operating costs of branch campuses and centers be analyzed. The six state universities that have branch campuses and centers were included in the study. In addition, nine community colleges were selected to participate (See Table 1). The community colleges chosen for the analyses were broadly representative in terms of location (both urban and rural colleges were selected from throughout the State) and configuration (colleges with small and large campuses and centers were selected).

TABLE 1

BRANCH CAMPUSES AND CENTERS SELECTED FOR COST ANALYSIS

Institution	Branch Campus or Center
A. State Universities	
Florida State University	Panama City Campus
University of South Florida	St. Petersburg Campus Sarasota Campus Fort Myers with Edison Joint-Use Campus
Florida Atlantic University	West Palm Beach Center Broward Campus-University Tower Site Broward Campus-Davie Site Broward Campus-Commercial Blvd. Site
University of West Florida	Okaloosa-Walton Junior College/University of West Florida Joint-Use Center in Fort Walton Beach
University of Central Florida	South Orlando Center Daytona Beach Community College/University of Central Florida Joint-Use Center in Daytona Beach Brevard Community College/UCF Joint-Use Center in Cocoa

TABLE 1 (continued)

BRANCH CAMPUSES AND CENTERS SELECTED FOR COST ANALYSIS

Institution	Branch Campus or Center
A. State Universities (continued)	
Florida International University	North Miami (Bay Vista) Campus Broward/Davie Campus Broward/University Tower Campus
B. Community Colleges	
Miami-Dade Community College	North Campus South Campus Wolfson Campus Medical Campus
Broward Community College	Central Campus (Davie Site) North Campus South Campus Fort Lauderdale Center
Florida Community College at Jacksonville	Downtown Campus North Campus Kent Campus South Campus
Valencia Community College	West Campus East Campus
Brevard Community College	Brevard/University of Central Florida at Cocoa Melbourne Campus Titusville Campus
Pasco-Hernando Community College	East Pasco Campus North Hernando Center West Pasco Center
Edison Community College	Edison/University of South Florida Joint-Use Facility at Fort Myers
Okaloosa-Walton Junior College	Okaloosa-Walton Junior College /University of West Florida Joint-Use Facility at Fort Walton Beach
Daytona Beach Community College	Daytona Beach/University of Central Florida Joint-Use Facility at Daytona Beach

To comply with the legislative charge, Commission staff first examined the cost information available from the Board of Regents and the State Board of Community Colleges and determined that, in their current form, the data could not be utilized. For example, the Board of Regents systematically obtains data on the operating costs of an entire institution but not specifically for each branch campus or center. Similarly, the State Board of Community Colleges obtains aggregate data for each of the 28 community colleges. Although cost information on separate campuses and centers of community colleges is provided by certain institutions, the data are not presented in a standard format and thus not appropriate for comparison.

Therefore, to assist with this effort, the Commission contracted with Dr. Paul Brinkman and Dr. Dennis Jones of the National Center for Higher Education Management Systems (NCHEMS) to design the survey instruments for generating cost data for operating branch campuses and centers, and to analyze the completed surveys. The consultants' report and survey instruments are contained in Appendix A and B, respectively. A discussion of the major findings of the report and the implications of the analyses are presented in Chapter III.

A preliminary draft report was disseminated for public comment in early January. The final report was adopted by the Commission on January 21, 1988 and transmitted to the Legislature and the State Board of Education prior to February 1, 1988.

II. FUNDING BRANCH CAMPUSES AND CENTERS

In the early 1970s, a financial crisis in higher education was evident at a great number of schools throughout the country. A major study commissioned by the Carnegie Foundation concerning this crisis led to several conclusions about how campuses might retrieve the public's diminished confidence in higher education. Most salient among these was the notion that "the burden of proof of the value of educational financing has shifted" so that colleges and universities must "know what their functions cost, what their purposes are, and whether by some reasonable standard they are spending their money efficiently" (Cheit, 1971). The increased cost-conciousness of this period created an impetus for cost analysis, program budgeting and systems for prioritizing expenditures.

Two years later, Cheit (1973) observed that new managerial practices and organizational relationships had resulted from the internal financial pressures on colleges in the early 1970s. One major shift in thinking was that systematic methods for making financial decisions must be developed. In addition, the potential for off-campus facilities to provide the same quality of education at a reduced cost was recognized. The stability of an educational institution was linked to the degree to which institutions could be "reasonably governable, reasonably efficient and demonstrate a comprehensive and persuasive set of unifying purposes" (Cheit, 1973). Institutions of higher education were advised to develop a stable campus, to document efficiency and productivity and to clarify their goals and missions.

A fundamental concern of multicampus universities and community college systems is how to maintain quality while ensuring the equitable distribution of resources. The guideline or formula approach to budgeting is one means frequently used to achieve the dual goals of quality and equity while providing a measure of accountability for fiscal decision-making. Formulas ensure that the need for resources and the adequacy of existing and requested funding are assessed using the same yardstick rather than individual and varying judgments.

Konrad (1982) defines branch campuses as "extension centers of universities or colleges, semi-autonomous residential institutions, two-year public colleges, or parts of multicampus institutions," each "an integral part of a parent institution or larger system." Huitt (1972) attributes the growth in the number of branch campuses nationwide to costs and size. Branch campuses make a college education more accessible to many students who can live at home, maintain a part-time job and typically pay lower tuition than at the main campus of a university. In addition, branch campuses solve a problem for universities which find a need to limit enrollment at the main campus in the face of increased demand. Further, Huitt suggests that branch campuses allow universities to maintain the same quality of education as is available on the main campus.

Konrad maintains that branch campuses are becoming increasingly important in higher education in the 1980s and he suggests that failure to define an institution's role and goals can create interinstitutional conflict over students and resources. In the struggle for "parity of esteem," governing boards frequently neglect branch campuses, which are viewed as ancillary to the total institution. Again, role clarification is seen as essential to increasing the effectiveness of both multicampus boards and branch campuses themselves. Rather than emulating the main institution, branch campuses are advised to develop identities and activities reflecting a local community orientation. Further, it is recommended that operational accountability be left at the branch campus level. Careful delineation of authority for branch campus administrators is thought to help avoid undue stress and ambiguity in institutional governance.

Wynn (1972) discussed the need for multicampus institutions to direct attention to basic questions of organization and control, particularly as they apply to financial and business affairs. He maintains that "each basic area of financial operation (accounting, disbursements, receipts, budget approval, and budget administration) must be assigned to the proper level within the organizational hierarchy." The advantages and disadvantages of centralized and decentralized budget administration structures are compared in Table 2.

TABLE 2

ADVANTAGES VERSUS DISADVANTAGES OF CENTRALIZED VERSUS DECENTRALIZED BUDGET ADMINISTRATION STRUCTURES

Centralized

Advantages

1. Permits an organization to make abrupt or rapid changes in overall operation.
2. Makes for less duplication of work, high level of specialization, fewer staff.
3. Means that fewer persons interpret policy, which is then more widely applied.
4. Allows for a very high degree of control over all phases of operations.
5. Facilitates routine comparison of operating characteristics as a means of finding methods for fiscal improvement.

Disadvantages

1. Creates tendency to over or under-react to situations that develop on an individual campus due to comparative remoteness of centralized budget administration.
2. Requires fewer administrative positions, thus lessening effectiveness in situations where the number of persons under supervision exceeds six.

Decentralized

Advantages

1. Places authority to make decisions as near as possible to the level at which problems originate.
2. Improves ability to make judgements based on more directly applicable knowledge and understanding.

TABLE 2 (continued)

ADVANTAGES VERSUS DISADVANTAGES OF CENTRALIZED VERSUS DECENTRALIZED BUDGET ADMINISTRATION STRUCTURES

Decentralized
(continued)

Advantages (continued)

3. Increases number of administrators and reduces number of persons under one supervisor.

Disadvantages

1. Makes institution-wide change more difficult in that branch administration reflects the operation of each individual campus differently.
2. Requires decentralized budget administration to conform to both overall and local campus policies.

SOURCE: Wynn, 1972.

III. ANALYSIS OF THE OPERATING COSTS OF BRANCH CAMPUSES AND CENTERS

Dr. Paul Brinkman and Dr. Dennis Jones of the National Center for Higher Education Management Systems (NCHEMS) were engaged as consultants by the Commission to design and analyze a survey of costs at branch campuses and centers. The consultants were further asked to analyze the current method for generating and determining these costs, compare the cost factors in Florida to other states, discuss the implications of the data, and identify strategies to minimize additional costs. Their report forms the basis for this chapter; their complete report is contained in Appendix A.

Before describing the study design and survey results, the consultants discussed conceptual issues in the cost analysis of higher education as they relate to the current study. They note, for example, that although the study as directed in proviso is limited to operating costs, there are other cost considerations relevant to the special nature of branch campuses and centers:

> No consideration is given to costs incurred by students, either in the form of expenditures or opportunity costs (the value of their time). This is in keeping with the intent of the legislation, but it does ignore issues that are part and parcel of the rationale for having branch campuses and centers in the first place--the impact they have on reducing certain student costs and thereby enhancing access. Capital costs for buildings are also ignored. Costs for faculty in the form of time spent traveling between campuses is another example of a cost that is not being included in this study. Again, these omissions are appropriate in this context, but it would be inappropriate to overlook such costs when considering the overall issue of the costs and benefits of branch campuses and centers as a mode of delivering higher education.

The consultants also note that institutional costs at branch campuses and centers are difficult to determine for several reasons, including:

- Cost allocation is almost always arbitrary. Institutional accounts are normally not kept in such a way to facilitate the allocation of a proportion of these costs to a campus or center. Frequently, allocation of costs in proportion to student credit hours is utilized to provide a rough approximation of actual costs.

- Many reasons exist for costs being what they are (for example, price scale effects, program-related differentials with respect to required levels of resources, etc.). The cost complexities can be strong in some cases and may actually overshadow systematic cost factors.

- Unit costs, such as cost per student credit hour, will vary based on differences in such areas as faculty salaries, student-faculty ratios, and level of library resources. Those who provide instructional services have considerable latitude in determining how those services will be provided and hence for determining unit costs.

- Good baseline data for an evaluative framework in the current analysis is nonexistent. This is especially true in community colleges where no branch campuses exist, that is, the community college system consists of a prevailing multicampus structure with separate campuses. While the main campus provides a baseline for the university, some activities are noted which have little relationship to a branch, such as administrative responsibilities related to sponsored research.

Survey Design

Since data on operational costs of branch campuses and centers could not be obtained from the respective state boards, survey instruments were developed by the consultants to generate these data. Draft survey instruments were modified in meetings with staff of the Board of Regents and the State Board of Community Colleges, as well as with institutional representatives. The account structures are virtually identical in the university and community college surveys. The university survey focuses on the branch versus main campus structure while the community college survey focuses on multicampus versus district-wide functions. A separate, additional survey was used for joint-use facilities. These survey instruments are contained in Appendix B.

The surveys were designed to develop basic data on actual expenditures, salaried personnel, and student credit hours for fiscal year 1986-87. For joint-use facilities, respondents were given the opportunity to estimate savings that result from the joint-use agreement. All university branch campuses and centers were asked to indicate what, if any, additional resources would be needed to bring their services up to a level equivalent to those available on the main campus.

The branch campuses and centers included in the analysis were listed in Table 1. Tables 3 and 4 which follow include information on enrollment at main campuses, and branch campuses and centers for state universities and community colleges respectively. Table 5 includes data on the gross square footage of each facility.

TABLE 3

1986-87 ENROLLMENT IN STATE UNIVERSITIES WITH BRANCH CAMPUSES AND CENTERS

INSTITUTION	STUDENT CREDIT HOURS/ CREDIT HOUR EQUIVALENTS	HEADCOUNT ENROLLMENT	BRANCH/ CENTER FTE
Florida State University	563,996	22,234	
Panama City Campus	11,213	660	297
University of South Florida	518,067	23,819	
St. Petersburg Campus	38,715	2,865	997
Sarasota Campus	31,510	1,712	791
Fort Myers with Edison Joint-Use Campus	14,401	1,036	369
Florida Atlantic University	173,204	8,330	
West Palm Beach Center	7,218	761	162
Broward Campus-University Tower Site	3,193	399	88
Broward Campus-Davie Site	612	50	17
Broward Campus-Commercial Blvd. Site	20,721	1,693	496
University of West Florida	113,739	5,122	
OWJC/UWF Joint-Use Center in Fort Walton Beach	17,632	985	477
University of Central Florida	326,825	14,151	
South Orlando Center	7,393	752	190
DBCC/UCF Joint-Use Center in Daytona Beach	6,818	477	178
Brevard CC/UCF Joint-Use Center in Cocoa	18,511	1,123	479
Florida International University	265,431	13,142	
North Miami Campus (Bay Vista)	53,251	3,414	1373
Broward Center-Davie Site	6,833	706	182
Broward Center-University Tower Site	735	0*	21
		TOTAL FTE	6,117

SOURCE: Reported by individual institutions and the Board of Regents, November 1987.

* Tower Site did not open until Spring 1987.

TABLE 4

1986-87 BRANCH CAMPUS/CENTER ENROLLMENT IN COMMUNITY COLLEGES

INSTITUTION	STUDENT CREDIT HOURS/ CREDIT HOUR EQUIVALENTS	HEADCOUNT ENROLLMENT
Miami-Dade Community College		
North Campus	318,182	22,015
South Campus	415,669	28,919
Wolfson Campus	167,308	14,651
Medical Campus	58,743	3,416
Broward Community College	374,951	33,863
Central Campus (Davie)	186,064	18,221
North Campus	97,971	9,510
South Campus	85,877	8,103
Fort Lauderdale Center	5,039	386
Florida Community College at Jacksonville	436,475	39,055
Downtown Campus	81,370	7,156
North Campus	99,247	7,743
Kent Campus	122,887	10,453
South Campus	132,971	13,703
Valencia Community College	251,402	12,559
West Campus	128,470	6,163
East Campus	84,719	4,197
Brevard Community College	261,438	10,864
Cocoa Campus	100,890	5,247
Melbourne Campus	85,634	4,617
Titusville Campus	22,731	1,000
Pasco-Hernando Community College	63,410	2,997
East Pasco Campus	11,091	585
North Hernando Center	14,123	821
West Pasco Center	34,696	1,591
Okaloosa-Walton Junior College	40,276	2,687
OWJC/UWF Joint-Use Facility at Fort Walton Beach	10,811	1,184

SOURCE: Reported by individual institutions, November 1987.

TABLE 5

GROSS SQUARE FOOTAGE OF CAMPUSES AND CENTERS AT STATE UNIVERSITIES AND COMMUNITY COLLEGES

INSTITUTION	GROSS SQUARE FEET OF CAMPUS/CENTER
A. STATE UNIVERSITIES	
Florida State University	3,478,717
Panama City Campus	79,800
University of South Florida	5,194,479
St. Petersburg Campus	283,215
Sarasota Campus	240,701
Fort Myers with Edison Joint-Use Campus	145,401
Florida Atlantic University	
West Palm Beach Center	5,979
Broward Campus-University Tower Site	85,378
Broward Campus-Davie Site	17,602
Broward Campus-Commercial Blvd. Site	48,752
University of West Florida	
OWJC/UWF Joint-Use Center in Fort Walton Beach	40,126
University of Central Florida	1,557,591
South Orlando Center	11,858
DBCC/UCF Joint-Use Center in Daytona Beach	40,989
Brevard CC/UCF Joint-Use Center in Cocoa	71,940
Florida International University	1,135,347
North Miami Campus (Bay Vista)	619,559
Broward Center-Davie Site	11,510
Broward Center-University Tower Site	7,540
B. COMMUNITY COLLEGES	
Miami-Dade Community College	
North Campus	893,423
South Campus	843,883
Wolfson Campus	406,685
Medical Campus	127,999
Broward Community College	
Central Campus (Davie)	609,257
North Campus	230,916
South Campus	110,373
Fort Lauderdale Center	64,344

TABLE 5 (continued)

GROSS SQUARE FOOTAGE OF CAMPUSES AND CENTERS AT STATE UNIVERSITIES AND COMMUNITY COLLEGES

INSTITUTION	GROSS SQUARE FEET OF CAMPUS/CENTER
B. COMMUNITY COLLEGES (continued)	
Florida Community College at Jacksonville	
Downtown Campus	371,436
North Campus	330,396
Kent Campus	316,572
South Campus	414,231
Valencia Community College	
West Campus	393,429
East Campus	193,540
Brevard Community College	
Cocoa Campus	558,507
Melbourne Campus	313,618
Titusville Campus	70,268
Pasco-Hernando Community College	
East Pasco Campus	97,077
North Hernando Center	102,715
West Pasco Center	135,175
Okaloosa-Walton Junior College	
OWJC/UWF Joint-Use Facility at Fort Walton Beach	27,000

SOURCE: Reported by individual institutions, November 1987.

Survey Results

The results of the cost surveys as reported by the NCHEMS consultants are presented in this section. Much numerical information associated with the operating costs of branch campuses and centers in each sector is included to remain consistent with the legislative charge and purpose of the report. While information on operating costs at individual branch campuses and centers in state universities and community colleges is not included in the report, these data can be obtained from the Commission's office on request.

University Branch Campuses and Centers

As identified in Table 1, 15 university branch campuses and centers responded to the survey. This report of the survey results focuses on the distribution of costs for the group as a whole, or for stand-alone versus joint-use facilities, rather than individual branch campuses or centers.

Unit Expenditures

Table 6 displays a variety of cost data. Section A of the table reports on expenditures per unweighted student credit hour. Expenditures for a function or object category are total expenditures, that is, they include both the expenditures incurred on site at the branch campus or center, and the expenditures that were incurred on the main campus and allocated to the branch campus or center. Considerable differences are noted in the data values among the campuses in the survey results. In all instances, the maximum values are many times larger than the minimum values. Two measures of central tendency, the mean and the median, were included in the consultants' report. Because many of the distributions had one or more extraordinary values (mostly on the high end), the median is the better indicator of central tendency for the data on university branches and centers, and therefore, will be utilized in this section for cost comparisons.

The bottom portion of Section A contains data that reflect costs at the six main campuses whose branches or centers are included in the study. These data are included to provide one way of assessing costs at the branches and centers.

As the data in Section A indicate, the branch campuses spend more per credit hour for institutional support and student services than do the main campuses. By contrast, median values for plant operation and maintenance are very close. Similarly, in Section B of Table 6, it can be seen that there are only small differences between instructional and library costs per weighted student credit hour at the two types of campuses. Library costs are actually slightly lower at the branch campuses and centers. Weights by level of instruction are used in acknowledgement of the pattern in higher education that higher levels of instruction typically cost more on a unit basis. For this study, lower division credits were assigned a weight of 1, upper division credits a weight of 1.5, and graduate credits a weight of 3. Any weights one might use are arbitrary in the final analysis, but these particular values are in general accord with mean values for actual costs reported by numerous institutions across the country (Brinkman, 1985).

Expenditures in several functional areas probably relate best to headcount enrollment. Section C of Table 6 shows expenditures per headcount student for three of those areas, for both the branches and centers and their respective main campuses. As the data indicate, costs for student services and institutional support are higher at the former, while plant costs (excluding capital costs) are lower.

TABLE 6

1986-87 EXPENDITURES AT UNIVERSITY BRANCH CAMPUSES AND CENTERS

Function	Minimum	Maximum	Median
A. Expenditures per Student Credit Hour (Unweighted) at Branches:			
Instruction	$56	$218	$84
Academic Administration	16	71	31
Library-Audio Visual	2	263	8
Student Services	12	68	18
Institutional Support	25	119	37
Plant O & M	3	116	18
All Support	82	570	122
All Functions	142	788	212
At the corresponding main campuses:			
Student Services	5	10	8
Institutional Support	16	25	19
Plant O & M	16	33	23
B. Expenditures per Student Credit Hour (Weighted) at Branches/Centers:			
Instruction	$28	$103	$41
Library-Audio Visual	1	124	5
At the corresponding main campuses:			
Instruction	33	59	44
Library-Audio Visual	5	17	7
C. Expenditures per Headcount Student at Branches/Centers:			
Student Services	$172	$547	$257
Institutional Support	246	1,451	473
Plant O & M	26	1,222	235
At the corresponding main campuses:			
Student Services	109	245	178
Institutional Support	356	560	435
Plant O & M	322	734	458

SOURCE: Brinkman and Jones, 1987.

NOTES: Student credit hour weights: Lower division = 1; upper division = 1.5; graduate = 3.

All main campus expenditures are a net of the allocation to branches and centers, and library, institutional support, and plant O & M expenditures are adjusted to reflect main campus involvement in research and public service.

Expenditure Ratios

Table 7 shows the distribution of results for a series of expenditure ratios. In Section A, the data shown are ratios of expenditures in various support areas to expenditures for instruction. For example, the data indicate that the branches and centers spend, on an average, a little over a third (.36) as much on academic administration as on instruction. Overall, they spend about one-and-a-half as much for support activities (median = 1.38) as for instruction. The values for the ratios at the branches and centers are lower over the main campuses in two of four areas. Library and physical plant are two instances where the branches and centers consistently seem to do better than the main campuses from a strictly economic perspective. It is reasonable to ask, however, whether the library services in particular are indeed comparable.

Sections B and C of Table 7 provide data on salary and benefits for other personnel services (OPS) as well as regular salaried staff. While one might expect OPS expenditures to be relatively large in proportion to salaries and benefits for instruction at branch campuses and centers, the overall median value of .15 does not seem high. Not surprisingly, nearly nine of every ten dollars for instruction is spent on personnel compensation.

TABLE 7

1986-87 EXPENDITURE RATIOS AT UNIVERSITY BRANCH CAMPUSES AND CENTERS

Function	Minimum	Maximum	Median
A. Support Expenditures/Instructional Expenditures at Branch Campuses:			
Academic Administration	0.18	0.64	0.36
Library-Audio Visual	0.01	1.21	0.12
Student Services	0.09	0.48	0.22
Institutional Support	0.19	1.41	0.39
Plant O & M	0.02	1.19	0.15
All Support	0.58	3.03	1.38
At the corresponding main campuses:			
Library-Audio Visual	0.13	0.29	0.18
Student Services	0.07	0.14	0.12
Institutional Support	0.24	0.36	0.27
Plant O & M	0.25	0.34	0.32
B. Instruction: OPS/Salaries & Benefits:			
Branch-Center on site	0.00	0.86	0.09
Main Campus allocation	0.00	0.45	0.18
Total	0.07	1.08	0.15
C. Instruction: OPS + Salaries and Benefits/Total:			
Branch-Center on site	0.00	1.00	0.89
Main Campus allocation	0.74	1.00	0.88
Total	0.74	0.96	0.89

SOURCE: Brinkman and Jones, 1987.

As shown in Table 8, the branch campuses and centers account for about three percent as many credit hours as their respective main campuses do (as measured by the weighted credit hours median). The corresponding ratio for expenditures, branch or center to main campus, is about the same for plant operations and maintenance. The ratio is higher for instruction and library services, and considerably higher for institutional support and student services. The data used to derive the ratios are the same, of course, as those used in Table 6, with one important difference. In Table 6, as well as in Section A of Table 7, medians for main campus net expenditures and support-to-instruction ratios are based on only six data points -- the number of main campuses. By contrast, in Table 8, the medians are based on 15 data points -- the number of combinations of main campuses and branches or centers. Presented in this alternative fashion, the results reinforce those in Table 6 with respect to plant operations and maintenance, but increase the relative expensiveness of branches and centers for all the other functions shown.

TABLE 8

1986-87 STUDENT CREDIT HOUR AND EXPENDITURE RATIOS

Function	Minimum	Maximum	Median
Branch-Center/Main Campus Student Credit Hours:			
Unweighted	0.003	0.201	0.028
Weighted	0.004	0.206	0.032
Branch-Center/Main Campus Expenditures (net):			
Instruction	0.004	0.456	0.054
Library-Audio Visual	0.000	0.369	0.056
Student Services	0.006	0.466	0.099
Institutional Support	0.004	0.498	0.080
Plant O & M	0.001	0.555	0.028

SOURCE: Brinkman and Jones, 1987.

On-Site Versus Allocated Expenditures

Table 9 contains data on the share of total expenditures at branch campuses and centers attributed to the main campus. Looking at the median values, it can be seen that most of the expenditures recorded at the branch campuses and centers are instruction and plant operations. Conversely, about two-thirds of the expenditures for academic administration and institutional support are allocated from expenditures at the main campus. Almost all of the instances in which all costs occurred at the main campus involved either FAU or FIU in connection with the Broward sites at Davie or the Tower. There appear to be significant differences between stand-alone and joint-use facilities with respect to instruction, libraries, and plant operations as can be seen when the last two columns of Table 9 are compared.

As noted earlier, allocating costs typically entails making arbitrary decisions. Such allocation decisions are extremely important as the data in Table 9 indicate. Forty-two percent of all expenditures and 56 percent of all support expenditures attributed to the branch campuses and centers come from allocated main campus expenditures.

TABLE 9

SHARE OF TOTAL EXPENDITURES AT BRANCH CAMPUSES AND CENTERS ATTRIBUTED TO THE MAIN CAMPUS IN 1986-87*

Function	Median for All Campuses/Centers Combined	Stand-Alone Facility Median	Joint-Use Facility Median
Instruction	0.16	0.41	0.14
Academic Administration	0.70	0.74	0.54
Library-Audio Visual	0.33	0.20	0.68
Student Services	0.59	0.60	0.57
Institutional Support	0.65	0.75	0.62
Plant O & M	0.16	0.11	0.22
All Support	0.56	0.50	0.57
All Functions	0.42	0.48	0.38

SOURCE: Brinkman and Jones, 1987.

* The figures shown, representing main campus shares, are calculated by dividing main campus expenditures that have been allocated to branch campuses or centers by total branch campus or center expenditures, which include the main campus allocation.

The allocation procedures for branch campuses and centers used for this study were developed over a period of several weeks. The university survey instrument contained allocation rules for instruction, but left the rules for the support areas to be agreed upon by a committee of Board of Regents staff and institutional representatives. This committee originally used a straight-line approach in which a branch campus or center was allocated main campus costs (total institutional costs minus on-site branch campus costs) on the basis of relative numbers of workload units (student credit hours, headcount students enrolled, or gross square feet of physical space, depending on the function) at the respective campuses. The figures shown in Table 9 reflect a subsequent iteration in which the allocations were reduced for all of the support functions except institutional support. The reductions were designed to reflect more accurately the actual nature of the activities conducted at the respective campuses. For example, at some main campuses most of the activities included within the plant operation and maintenance category are directed toward main campus facilities only. There is no reason why a straight-line share of the costs of those activities should be allocated to the branches or centers.

The following multipliers were used by the committee to bring about reductions from what would have been allocated on a straight-line basis: .10 of OCO in academic administration, .15 for library/audio visual, .75 for student services, and .20 for plant operations and maintenance. As noted, there was no reduction for institutional support, i.e., the multiplier was set at 1.00.

As the consultant notes, the Commission has

> ...no way of evaluating these particular figures, but clearly the basic principle involved is reasonable. The relative sizes of the multipliers are plausible too. Physical plant staff at the main campus, for example, tend to have few responsibilities for the operation and maintenance of the branch campus or center facilities, and thus a low multiplier is appropriate. In student services, by contrast, many of the main campus activities, such as record keeping and student aid administration, will fully include service to branch campus or center students, and thus a higher multiplier is appropriate.
>
> Less obvious, however, is the rationale for treating all main campuses the same. Doing so may make sense for institutional support, because so much of the expenditures are for functions, such as executive management and legal services, that are not tied to any one segment of the institution and thus can be allocated fairly to all segments using some form of straight-line approach. In other functional areas, the services provided at the branches and centers could affect materially the share of main-campus expenditures that should be allocated to the branches and centers. It is conceivable, for instance, that a branch campus might provide many or only a few of the services included within the general category of student services. For at least some of the services provided by the branch campus, the load on the main campus will probably be lightened or even eliminated. For example, if counseling and career guidance are available at a particular branch campus, there should be less or no demand for these services at the main campus on the part of those branch-campus students. The allocation of main-campus student services expenditures to that branch campus should reflect this situation as compared to one in which counseling and career guidance are not provided at the branch campus.
>
> It may be that the range of noninstructional services provided at the branch campuses and centers is generally the same. If so, it would be appropriate to use a common set of multipliers to adjust allocations to those campuses and centers. The range of services provided is an empirical question. Our survey was not designed to address this question, but it should not be lost sight of by those evaluating the overall picture of branch campuses and centers.

Stand-Alone Versus Joint-Use Facilities

Table 10 presents the first of several comparisons on the economics of joint-use facilities. As noted earlier, the infrequency of such arrangements limited the extensiveness of their analysis for this study. In fact, of those joint-use facilities in existence, several are quite new. Accordingly, the analysis provided by the consultants was more suggestive than definitive. The thrust of the data in Table 10 suggests that, on the average, the costs at the eight joint-use facilities included in the analysis are not necessarily lower than those at stand-alone branches or centers. As can be seen in Table 10, in the areas of library and plant operations and maintenance, costs are lower as expected. In the other categories of Table 10, unit costs (per student credit hour or per headcount student) for branches and centers in joint-use facilities are comparable to or higher than those at stand-alone facilities. Again, the medians tend to be more reliable indicators of central tendency than the means because of the high values reported in a small number of cases.

The savings in library and plant costs translate into lower overall support costs at the joint-use facilities as a proportion of instructional costs (Table 10, Section D). Currently, instructional costs at joint-use facilities are modestly higher than at stand-alone branches and centers. This may well be due to the relatively small size, on the average, of joint-use facilities. In the longer term, presuming growth in enrollment, joint-use arrangements may become quite economical.

TABLE 10

1986-87 EXPENDITURES AT UNIVERSITY BRANCH CAMPUSES AND CENTERS: STAND-ALONE VERSUS JOINT-USE FACILITIES

Function	Stand-Alone Branch Campus/Center Facility Median	Joint-Use Facility Median
A. Expenditures per Student Credit Hour (Unweighted):		
Instruction	$72	$87
Academic Administration	29	35
Library-Audio Visual	9	3
Student Services	18	18
Institutional Support	37	38
Plant O & M	18	9
All Support	122	127
All Functions	195	240
B. Expenditures per Student Credit Hour (Weighted):		
Instruction	$41	$51
Library-Audio Visual	5	1

TABLE 10 (continued)

1986-87 EXPENDITURES AT UNIVERSITY BRANCH CAMPUSES AND CENTERS: STAND-ALONE VERSUS JOINT-USE FACILITIES

Function	Stand-Alone Branch Campus/Center Facility Median	Joint-Use Facility Median
C. Expenditures per Headcount Student:		
Student Services	$257	$261
Institutional Support	469	571
Plant O & M	313	157
D. Expenditure Ratio		
Support Expenditures/Instructional Expenditures:		
Academic Administration	0.36	0.34
Library-Audio Visual	0.15	0.04
Student Services	0.22	0.19
Institutional Support	0.49	0.39
Plant O & M	0.24	0.10
All Support	1.60	1.31

SOURCE: Brinkman and Jones, 1987.

The basic costs patterns that emerge when comparing stand-alone with joint-use facilities carry over when the analysis turns to "productivity" per FTE employee. The data in Sections A, B, and C in Table 11 are presented such that from an economic standpoint, the higher the number, the better the variable. As expected, student credit hours and headcount enrollment per FTE position are relatively high for library and plant operations and maintenance at the joint-use facilities surveyed. For support functions overall, the "productivity" figures are virtually identical for the two types of facilities (Sections A and C). Perhaps the most striking difference between them is in the area of instruction. Student credit hour production at the stand-alone facilities is twice that at the joint-use facilities. Presumably this is due to the combination of relatively low utilization rates for regular faculty as well as somewhat higher use of adjunct staff for instruction at the joint-use facilities. In any event, the combination of similar support figures and quite different instruction figures yields the large differences in support-to-instructional staff ratios in Section D of Table 11 below.

TABLE 11

PRODUCTIVITY PER FTE STAFF POSITION AT UNIVERSITY BRANCH CAMPUSES AND CENTERS FOR 1986-87: STAND-ALONE VERSUS JOINT-USE FACILITIES

Function	Separate Facility Median	Joint-Use Facility Median
A. Student Credit Hours (Unweighted) per FTE Staff:		
Instruction	1,036	506
Academic Administration	1,887	1,558
Library-Audio Visual	2,644	22,927
Student Services	1,806	1,357
Institutional Support	1,004	968
Plant O & M	2,293	3,502
All Support	330	323
All Functions	262	213
B. Student Credit Hours (Weighted) per FTE Staff:		
Instruction	1,617	867
Library-Audio Visual	4,138	32,950
C. Headcount Enrollment per FTE Position:		
Academic Administration	152	144
Library-Audio Visual	238	1,542
Student Services	106	102
Institutional Support	74	64
Plant O & M	135	264
All Support	22	22
D. FTE Staff Ratios:		
Support/Instruction	2.85	1.83

SOURCE: Brinkman and Jones, 1987.

Additional Needs

The data reviewed thus far reflect historical costs. Survey respondents were asked to estimate what additional noninstructional resources were needed, if any, to enable the branch campuses and centers to offer services and support comparable to that offered by their respective main campuses. It should be remembered that the responses are judgments. The consultants caution that it would be inappropriate to attribute much precision to the figures provided by respondents.

As Table 12 shows, additional resources are thought to be most needed for library services, student services, and institutional support. On the average, the estimated total need per branch campus or center is $400,000, with a range from zero to nearly $1.7 million. The total amount of estimated need for all of the branches and centers combined comes to about $28 per student credit hour or about 12 percent of total expenditures per student credit hour in 1986-87. If forthcoming, the additional funds would add significantly to the differential between student services and institutional support costs at the branch campuses and centers compared to the main campuses. Institutional support costs would be roughly 150 percent higher at the branches and centers, using the median values shown in Table 6, Section A.

TABLE 12

UNIVERSITY BRANCH CAMPUSES AND CENTERS: ESTIMATES OF ADDITIONAL TOTAL RESOURCES NEEDED TO MATCH THE LEVEL OF SERVICES AT THE MAIN CAMPUS

Function	Stand-Alone Facility Total	Joint-Use Facility Total	Overall Total	Total Per Student Credit Hour
Library-Audio Visual	$1,001,604	$870,000	$1,871,604	$8
Student Services	813,618	693,230	1,506,848	6
Institutional Support	1,425,591	615,000	2,040,591	9
Plant O & M	529,857	510,000	1,039,857	4
Other	0	189,000	189,000	1
Total	$3,770,670	$2,877,230	$6,647,900	$28

SOURCE: Brinkman and Jones, 1987.

Summary

Several functions at the branch campuses and centers of state universities appear to be more expensive, when analyzed on a unit basis, than at the main campuses. It also appears that economies of scale effects are working against the branch campuses and centers, driving up unit costs at this stage of their development. As noted by the consultants, all things considered, the economies of scale suggest the need for a strategy that would insure that at least mature branches and centers are reasonably sized. Evidence suggests that the major benefits of economies of scale are attained by typical four-year institutions by the time they reach 1500 or so full-time-equivalent students (Brinkman and Leslie, 1986). The consultants suggest that this figure might be a useful long-term goal for the minimum expected enrollment at a proposed branch campus or center, although one would need to think through carefully any relevant differences between the typical, free-standing institution and branch campuses or centers. It should also be kept in mind that, in the area of instruction, the diversity of the curriculum will likely have an important impact on scale effects. If campuses are to remain small, they can still be relatively economical in the instructional area if the curriculum can be limited; that is, if the students are spread across a modest number of programs. Of course, as noted earlier, economic considerations are not the only matters of concern, since geographical access is not just a matter of access to institutions but to programs as well.

Community College Campuses and Centers

As noted in the Florida Administrative Code, community colleges do not have branch and main campuses. Rather, the community college alternative to a single campus arrangement is a multicampus structure combined with some centralized, institution-wide activities. The thrust of this cost study for the community college system, as noted by the consultants, is essentially one of adding to the base of knowledge about cost behavior in the community colleges. Virtually all community college cost analysis in Florida is done at the institutional rather than campus level. National data, such as those collected by the federal government, are also reported at the institutional level. Thus, the survey data and the brief analysis that follow below generate some new information in cost analysis for this sector.

Unit Expenditures

Table 13 presents basic unit expenditures data for the sample of nine community colleges surveyed. With a few exceptions, data from all the 20 campuses and centers responding to the survey are represented in the summary figures shown in this and subsequent tables on the community colleges. Mean values were reasonably good indicators of central tendencies for this group and thus medians are not shown.

As the data in Table 13 show, considerable differences in unit costs exist among the campuses and centers in community colleges. As was true for state universities, expenditures are "unitized" in a number of ways, and some ways fit a particular area or type of expenditure better than others. For instance, in the case of instruction a student credit hour is usually a better unit of activity, or workload, than is headcount enrollment, but the reverse is generally true for student services. For either measure of activity, differences at the extremes typically run about three to one (maximum divided by minimum), with the range for instruction being considerably higher (Table 13, Sections A and B).

TABLE 13

1986-87 EXPENDITURES AT SELECTED COMMUNITY COLLEGE CAMPUSES AND CENTERS

Function	Minimum	Maximum	Max:Min	Mean
A. Expenditures per Student Credit Hour:				
Instruction	$34	$86	2.5	$48
Academic Administration	4	12	3.0	7
Learning Res-Educ Media	3	10	3.6	5
Student Services	6	27	4.7	14
Institutional Support	16	35	2.2	22
Plant O & M	0	43	--	13

TABLE 13 (continued)

1986-87 EXPENDITURES AT SELECTED COMMUNITY COLLEGE CAMPUSES AND CENTERS

Function	Minimum	Maximum	Max:Min	Mean
A. Expenditures per Student Credit Hour (continued):				
All Support	$41	$110	2.7	$61
All Functions	79	168	2.1	109
B. Expenditures per Headcount Student:				
Instruction	$336	$1,474	4.4	$712
Academic Administration	45	172	3.8	106
Learning Res-Educ Media	30	175	5.9	81
Student Services	98	306	3.1	191
Institutional Support	168	592	3.5	328
Plant O & M	0	590	--	197
All Support	432	1,552	3.6	902
All Functions	784	2,630	3.4	1,614
C. Expenditures per FTE Staff Position:				
Instruction	$30,171	$56,766	1.9	$42,853
Academic Administration	25,351	60,739	2.4	40,984
Learning Res-Educ Media	25,537	47,798	1.9	31,527
Student Services	22,473	42,476	1.9	32,649
Institutional Support	36,577	68,612	1.9	47,455
Plant O & M	0	72,370	--	30,921
All Support	27,702	46,311	1.7	36,297
All Functions	30,558	44,884	1.5	38,417

SOURCE: Brinkman and Jones, 1987.

With the exception of plant expenditures, differences are more modest for expenditures per FTE staff position (Section C) than for expenditures per credit hour (Section A) or per headcount student (Section B). Thus, it appears that spending patterns among the campuses and centers are more varied for other objects of expenditure than than those related directly to FTE staff. As discussed in the introductory section of Chapter III, variations in program, clientele, and other aspects of particular campus arrangements can be expected to lie behind such expenditure differences. It so happens, for instance, that the three campuses with by far the highest costs per student credit hour include two of the smallest campuses in the sample and a campus devoted to training in health care fields.

Expenditure Ratios

Differences in the ratios of support to instruction expenditures were surprisingly large (Table 14, Section A). The primary reason for some of the larger values is that support costs are relatively high, presumably because certain institutions are relatively small in size (based on student credit hours) and economies of scale are not present.

No peculiarities exist in Section B of Table 14 where data on the proportion of total expenditures that occur at the campus itself are displayed. The allocation of expenditures for central office activities was done on a student credit hour basis. That is, the larger the campus in relation to the composite of all campuses in the district, the larger its share of institution-wide expenditures. As the data indicate, virtually all expenditures for instruction occur on site, while most (all but 22 percent) of the cost of institutional support, or general administration, is incurred at the district office. Overall, nearly three-fourths of all expenditures are incurred by the operating units themselves, compared to slightly more than half for just the support (noninstructional) functions.

TABLE 14

1986-87 EXPENDITURE RATIOS AT SELECTED COMMUNITY COLLEGE CAMPUSES AND CENTERS

Function	Minimum	Maximum	Mean
A. Support Expenditures/Instruction Expenditures:			
Academic Administration	0.07	0.23	0.16
Learning Res-Educ Media	0.07	0.18	0.11
Student Services	0.16	0.54	0.28
Institutional Support	0.30	0.72	0.47
Plant O & M	0.00	0.75	0.27
All Support	0.78	1.92	1.30
B. Campus Expenditures/Total Expenditures (campus plus allocation from central office expenditures):			
Instruction	0.85	1.00	0.97
Academic Administration	0.40	0.82	0.64
Learning Res-Educ Media	0.00	1.00	0.80
Student Services	0.27	0.84	0.66
Institutional Support	0.05	0.60	0.22
Plant O & M	0.58	0.98	0.84
All Support	0.23	0.80	0.53
All Functions	0.50	0.87	0.72

SOURCE: Brinkman and Jones, 1987.

FTE Staff Productivity

Table 15 shows a variety of data on FTE staff positions. Utilization rates differ widely among the campuses (Sections A and B). True productivity rates are again hidden because data was not obtained on the number of adjunct staff who, together with the individuals included in the FTE count, make up the full work force. Still, the differences among institutions are striking. The variations noted probably relate to different employment strategies as well as to scale effects.

TABLE 15

PRODUCTIVITY PER FTE STAFF POSITION AT SELECTED COMMUNITY COLLEGE CAMPUSES AND CENTERS IN 1986-87

Function	Minimum	Maximum	Max:Min	Mean
A. Student Credit Hours per FTE Position:				
Instruction	404	1,662	4.1	910
Academic Administration	2,768	14,313	5.2	6,438
Learning Res/Educ Media	2,682	12,235	4.6	6,363
Student Services	1,260	4,236	3.4	2,462
Institutional Support	1,353	3,243	2.4	2,265
Plant O & M	1,326	5,052	3.8	2,577
All Support	404	914	2.3	630
All Functions	204	475	2.3	362
B. Headcount Enrollment per FTE Position:				
Instruction	24	116	4.9	68
Academic Administration	209	1,351	6.5	504
Learning Res/Educ Media	156	900	5.8	472
Student Services	81	295	3.6	184
Institutional Support	71	253	3.5	170
Plant O & M	77	477	6.2	193
All Support	21	86	4.0	48
All Functions	12	43	3.6	27
C. Support FTE Positions/Instruction FTE Positions:				
All Support	0.92	2.79	3.0	1.49
D. Campus FTE Positions/Total FTE Positions (campus plus allocation from central office activities):				
All Support	0.24	0.83	3.5	0.62
All Functions	0.58	0.90	1.6	0.78

SOURCE: Brinkman and Jones, 1987.

For support functions overall, there are about one-and-a-half FTE positions for every FTE position in instruction (Section C). The corresponding figures for the university branches and centers were slightly higher for operations in joint-use facilities but nearly twice as high for stand-alone operations. The distribution of FTE positions between the campuses and institution-wide activities (Table 15, Section D) is, as expected, very similar to the comparable distribution of expenditures. About three-fifths of all support FTE positions are found at the campuses, and nearly four-fifths of all FTE positions are at the campus level when support and instructional activities are combined.

In summary, individual community college campuses exhibit considerable differences in expenditures per credit hour and per headcount student, in the ratio of support to instruction, in the shares of expenditures incurred on-site versus those in the central office, and in the productivity of FTE staff. As noted previously, higher education services can be and are delivered in different ways. These data certainly show this to be the case. The data also point to the utility of further and ongoing cost analyses designed to explain the differences in campus behavior detected in this study.

Economies of scale were found only for support expenditures and not for instruction. This is further confirmation that fixed costs are relatively high in the support areas as compared to instruction. This finding suggests that the analysis of support areas may be useful in studying the means by which the impact of fixed costs can be reduced.

Joint-Use Facilities

Institutions participating in joint-use facilities were asked several additional questions on the survey. These questions focused on both savings and additional expenditures that resulted from participation in a joint-use facility, as well as the nature and extent of fiscal resources shared between the participants. The results were somewhat inconclusive. In four of eight joint-use arrangements surveyed, the university involved reported some savings, but in only two instances (UCF at Brevard Center and UCF at Daytona Beach) could these savings be assessed quantitatively. The savings amounted to $710,000 in 1986-87 and occurred in library-audio visual services and in plant operation and maintenance. No additional expenditures were reported by any of the universities, so the $710,000 stands as a net figure for the group as a whole. Three other universities reported zero savings and zero additional expenditures. Only one community college (OWJC) reported either savings or additional expenditures. The figures were $164,000 and $122,000, respectively, or a net saving of $42,000.

Only a few institutions in either sector reported payments to or from other institutions in the joint-use arrangement. The payments were spread among the various functions, but most had to do with libraries or plant operations. These few data points do not add much to what was learned from the analysis reported on earlier in the university section of this chapter, in which expenditures at stand-alone and joint-use facilities were compared. In short, at this point, there is not sufficient evidence to conclude that savings occur at joint-use facilities. The savings that do occur do so in the areas of libraries and plant operations.

Joint-use facilities are a difficult target for a cost study based on survey research. The underlying structures are complex and vary a great deal from one situation to another, and even from one year to another. The Broward situation in which three institutions (FAU, FIU, and BCC) are sharing two sites (Davie and Tower) is perhaps the extreme example of complexity. The OWJC-UWF facility is a good example of how conditions at these facilities can change drastically. Those two institutions enjoyed a situation in which the local school district provided them with a building essentially at no cost. The school district now has other plans for the building, so future plant costs, both capital and operating, will be quite different in that particular facility.

Activities in Other States

Literature on branch campus and center costs in other states is virtually nonexistent. A telemail request for such information was sent out through the State Higher Education Executive Officers (SHEEO) network. Responses were received from five states. A brief synopsis of this cost information received from the states of Connecticut, Minnesota, Virginia, Utah, and Washington was prepared by Brinkman and Jones and is included in Appendix A, pages A-34 and A-35.

IV. CONCLUSIONS AND RECOMMENDATIONS

This technical report contains an array of information and analyses related to the operating costs of branch campuses and centers in state universities and community colleges. Numerous tables for displaying this information have been included, and certain issues that emerge from the data relating to operating costs have been identified.

Unlike most Commission reports, this study presents a quantitative assessment of the costs of operating branch campuses and centers in Florida that serves as an initial database. As such, it did not lead to numerous recommendations. Nonetheless, several conclusions arose from the analysis of the data that assist in formulating recommendations for minimizing operating costs as called for in the legislative proviso to the Commission.

University Branch Campuses and Centers

Compared to their main campuses, branch campuses and centers tend to be less expensive per student credit hour for library services and plant operations and maintenance, more expensive for institutional support (general administration) and student services, and roughly comparable for instruction (See Table 16). When compared in terms of expenditures per headcount student, institutional support and student services are again more expensive and the physical facilities less expensive at the branch campuses and centers. It is important to keep in mind that these comparisons are approximations and not precise measures. Furthermore, as noted in Chapter III, the institutions perceive that additional dollars are needed to bring services at the branch campuses and centers up to the level provided at the main campuses.

TABLE 16

MEDIAN UNIT EXPENDITURES, UNIVERSITY BRANCH CAMPUSES
AND CENTERS VERSUS MAIN CAMPUSES IN 1986-87*

	Per Student Credit Hour**	
Function	Branches & Centers	Main Campuses
Instruction **	$ 41	$ 44
Library-Audio Visual **	5	7
Student Services	18	8
Institutional Support	37	19
Plant Operation and Maintenance	18	23

TABLE 16 (continued)

MEDIAN UNIT EXPENDITURES, UNIVERSITY BRANCH CAMPUSES AND CENTERS VERSUS MAIN CAMPUSES IN 1986-87*

	Per Headcount Student**	
Function	Branches & Centers	Main Campuses
Student Services	$257	$178
Institutional Support	473	435
Plant Operation and Maintenance	235	458

SOURCE: Brinkman and Jones, 1987.

* Branch campuses and center expenditures include allocations from main campuses; main campus expenditures are net of branch campus and center expenditures; main campus expenditures are adjusted to reflect impact of separately budgeted research and public service.

** Credit hours were weighted by level of instruction.

The survey revealed large differences among the branch campuses and centers on virtually all indicators of cost, whether they be expenditures per student credit hour and per headcount student, ratios of support to instructional expenditures, student credit hours per FTE position, or the proportion of on-site expenditures to those allocated from the main campus.

Branch campuses and centers in stand-alone facilities and those in joint-use facilities exhibit a wide range of cost behavior. Comparing median values for the two groups, the branch campuses and centers in joint-use facilities have lower expenditures per student credit hour in the areas of library services ($3 versus $9) and plant operations and maintenance ($9 versus $18). Instructional costs per weighted student credit hour are somewhat higher at the joint-use facilities ($51 versus $41). Caution must be taken in interpreting these results, because expenditure patterns at joint-use facilities are subject to a variety of unique and readily changeable circumstances. For example, some services may be settled through short-term contracts, physical space may be leased on a temporary basis, and so on.

Looked at statistically, the branch campuses and centers as a group show evidence of diseconomies of scale, that is, their costs per student credit hour would tend to be lower if their enrollments were higher.

Recommendations:

1. **Each state university with branch campuses or centers, in collaboration with the Board of Regents, should examine alternatives to reduce the cost of coordination**

and the movement of human resources inherent in the multiple site structure.

By its very nature, the multiple site structure entails a set of coordination and delivery costs that are over and above operating costs at a single campus (for example, the travel required for administrators and faculty). Cost minimization strategies should be directed toward these incremental costs. Such strategies could involve establishing limits on the distance between a main campus and its branches or centers. The use of adjunct faculty to the extent allowable by accreditation standards, and electronic communications for administrative, instructional and library services are other potential cost minimization strategies.

2. **In accordance with the Master Plan for Florida Postsecondary Education and the State goals for access to higher education, the following strategies should be considered to minimize operating costs at branch campuses and centers:**

   a. **Restrict the nature and extent of the curriculum.**

The nature of the curriculum has a direct bearing on unit costs and therefore must be included in any complete set of strategies for limiting costs. The impact on costs of the breadth and depth of the curriculum, however, always occurs in tandem with the size of the overall instructional operation. Small size coupled with an extensive curriculum virtually guarantees high unit cost. Thus, curriculum planning and program approval for branch campuses and centers must be linked carefully with estimates of student demand.

   b. **Target at least some support services at minimally adequate levels rather than at main campus levels.**

If the costs of coordination and resource sharing among branch campuses and centers are to be offset, some support services may have to be curtailed relative to main campus standards. Joint-use facilities offer an example of how services in two areas, libraries and physical facilities, can be provided at less cost than at stand-alone branches or centers. At the same time, the level of services at branch campuses and centers should meet minimum standards with respect to the curriculum and the students being served. Some minimum standards for support services at branch campuses and centers may be a more appropriate target than the level of service offered at the main campus.

   c. **Establish minimum enrollment targets.**

Given that branch campuses and centers are prone to experiencing diseconomies of scale, before new branch campuses and centers are approved, it would be worth considering setting minimum enrollment targets for future university branch campuses and centers such as the 400 and 1000 student FTE which exist for centers and campuses within the community college system.

3. **State universities should routinely compare the cost-effectiveness of duplicating main campus services, using main campus services as needed, sharing resources**

with another institution, or changing the level of service.

An exploration of alternative means of providing services should be made a common practice at the branch campuses and centers. It should not be assumed that adequacy can be achieved only through duplication of main campus resources. Certain innovative responses may be needed, such as use of enhanced electronic communication.

4. **The Board of Regents should continue to examine and develop policy for allocating costs from the main campuses to the branch campuses and centers. As noted in the 1987 Legislative proviso, "the policy shall stipulate that all recurring program funding be converted to enrollment generated funding at the end of the third year of program development as provided for the new Lakeland Center."**

To achieve this goal, it is important that reasonable, accurate and reliable cost information on branch campuses and centers in state universities be available despite the fact that such information is not easily obtained. Cost information should continue to be collected at the branch campus and center level by the Board of Regents. Allocation of main campus expenditures to branch campuses and centers is particularly challenging. While the allocation procedures developed for this study are a significant step in the right direction, it remains unclear whether the procedures used are sufficiently sensitive to the differences among institutions. Additional efforts may be required to improve the procedures contained in the current study.

Community College Campuses and Centers

Considerable variation was noted among the community college campuses and centers in expenditures per student credit hour and per headcount student in every area examined. Table 17 shows mean values and the differences in expenditures per student credit hour and headcount for the campuses and centers in the survey. As the data show, the variation was largest in instruction. For all functions combined, the most expensive campus spent 2.1 times as much per student credit hour as the least expensive campus. When similar comparisons were made in terms of student credit hour or student headcount per FTE staff position, differences among the campuses were again substantial. Variations in instructional programs, size of campus, clientele, and use of adjunct staff no doubt account for most of these differences in unit expenditures and FTE staff utilization rates.

Central office resources were allocated to the individual campuses in an institution in proportion to the student credit hours generated by each of the campuses and centers. The on-site share of total campus expenditures was highest in instruction, plant operations and maintenance, and library resources, and lowest in institutional support. Among campuses, the greatest variation in the share of total expenditures occurring on-site was in institutional support. Evidence was found that at least some support services are less expensive when provided centrally than when they are provided on-site at the individual campuses. The evidence was developed as part of a simple statistical analysis and ought not be taken as definitive.

TABLE 17

EXPENDITURES AT TWENTY COMMUNITY COLLEGE CAMPUSES AND CENTERS IN 1986-87

	Per Student Credit Hour		Per Student Headcount	
Function	Mean Values	Maximum/ Minimum	Mean Values	Maximum/ Minimum.
Instruction	$ 47	2.5	$ 712	4.4
Academic Administration	7	3.0	106	3.8
Library Res-Educ Media	5	3.6	81	5.9
Student Services	14	4.7	191	3.1
Institutional Support	22	2.2	328	3.5
Plant Operations and Maintenance	3	---*	197	---*
All Support	61	2.7	902	3.6
All Functions	107	2.1	1,614	3.4

SOURCE: Brinkman and Jones, 1987.

*One campus in a joint-use facility reported zero physical plan expenditures.

Recommendations:

5. The State Board of Community Colleges should continue to analyze cost variations among campuses and centers, and promote economical practices whenever possible.

The variations in unit costs among the campuses and centers in community colleges are large. As such, they may offer an opportunity for costs savings. Cost analysis efforts should be directed toward a better understanding of these variations, especially between the very high and the very low cost operations. Some, if not most, of these variations can probably be explained in terms of differences in programs, students, or other circumstances about which little can be done. Some examples of especially good economic practices, however, may also be discovered. Such practices which could be shared with, and then emulated by, other campuses or centers. For this purpose, cost information should continue to be collected at the campus and center level for community colleges. As noted in the Commission's 1986 study of Florida Community College Finance, "the State Board of Community Colleges should actively monitor instructional expenditure patterns through the Management Analysis Package and administrative and program reviews, and include in its annual report information on unusually high or low program costs with explanations for inclusion in the budget request or recommended modifications to the institutions outlined as appropriate."

6. Individual community colleges, in cooperation with the State Board of Community Colleges, should explore further the relative efficiencies of centrally-produced support services versus services produced at the campuses and centers.

The statistical finding that some centrally-produced support services may be less expensive than locally-produced services is worth further investigation. Similarly, the electronic and information revolution of recent times means that alternative technologies are available for connecting campuses with central offices and each other. For example, the Student On-Line Advisement and Articulation (SOLAR) system promises to improve the quality of advisement and articulation among the campuses. It is reasonable to assume that some approaches will be more cost effective than others.

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APPENDIX A

NCHEMS Report to the Commission

Branch Campus and Center Cost Study
Florida State Universities and Community Colleges

A Report Submitted to the

Postsecondary Education Planning Commission

by

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National Center for Higher Education Management Systems

December 8, 1987

Branch Campus and Center Cost Study
Florida State Universities and Community Colleges
Executive Summary

In proviso language accompanying Specific Appropriations 534 through 537A the 1987 Legislature provided funds for the Postsecondary Education Planning Commission (PEPC) to "study the operating costs of branch campuses and centers at community colleges and universities to identify strategies for minimizing additional costs of branch campuses and center operations over and above the same services provided at main campuses." PEPC subsequently contracted with Paul Brinkman and Dennis Jones of the National Center for Higher Education Management Systems (NCHEMS) to design and analyze a survey of costs at branch campuses and centers, to identify strategies to minimize additional costs at branch campuses and centers, and to examine costing procedures for branch campuses and centers in other states. What follows is a summary of the methodology and results of their study.

Study Design

The survey instruments were designed in consultation with representatives of the two system offices and several of the campuses. The account structures are virtually identical in the university and community college surveys. The former survey focuses on the branch versus main campus issue while the latter survey focuses on individual campus versus institution-wide, or central office, functions. An additional survey was used for joint-use facilities. A total of fifteen university branch campuses and centers and twenty community college campuses are included in the analysis.

Findings for University Branch Campuses and Centers

1. Compared to their main campuses, branch campuses and centers tend to be less expensive per student credit hour for library services and plant operations and maintenance, more expensive for institutional support (general administration) and student services, and roughly comparable for instruction. (See Table A.) When compared in terms of expenditures per headcount student, institutional support and student services are again more expensive, and the physical plant less expensive, at the branches and centers. It is important to keep in mind that these comparisons are approximations, not precise measures. Furthermore, the institutions estimate that a total of $6.6 million would be needed to bring services at the branches and centers up to the level provided at the main campuses. This suggests that branch and center operations may be somewhat more costly than would appear from Table A.

2. The survey revealed large difference among the branch campuses and centers on virtually all indicators of cost whether they be expenditures per student credit hour or per headcount student, ratios of support to instructional expenditures, student credit hours per FTE position, or the proportion of on-site expenditures versus those allocated from the main campus.

Table A. Median Unit Expenditures, University Branch Campuses and Centers versus Main Campuses*

Function	Branches & Centers	Main Campuses
	--Per Student Credit Hour--	
Instruction**	$41	$44
Library-Audio Visual**	5	7
Student Services	18	8
Institutional Support	37	19
Plant Operation and Maintenance	18	23
	---Per Headcount Student---	
Student Services	257	178
Institutional Support	473	435
Plant Operation and Maintenance	235	458

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*Branch and center expenditures include allocations from main campuses; main campus expenditures are net of branch and center expenditures; main campus expenditures are adjusted to reflect impact of separately budgeted research and public service.

**Credit hours were weighted by level of instruction.

3. Branch campuses and centers in stand-alone facilities and those in joint-use facilities exhibit a wide range of cost behavior. Comparing median values for the two groups, the branches and centers in joint-use facilities have lower expenditures per student credit hour for library services ($3 versus $9) and plant operations and maintenance ($9 versus $18). Instructional costs per weighted student credit hour are somewhat higher at the joint-use facilities ($51 versus $41). Care must be taken in interpreting these results, because expenditure patterns at joint-use facilities are subject to a variety of unique and readily changeable circumstances. For example, some services may be secured through short-term contracts, physical space may be leased on a temporary basis, and so on.

4. Looked at statistically, the branches and centers as a group show evidence of diseconomies of scale: their costs per student credit hour would tend to be lower if their enrollments were higher.

For university branch campuses and centers, we suggest several broad strategies to follow in the effort to minimize costs:

1. Look for ways to reduce the cost of coordination and the movement of human resources inherent in the multiple site structure.

   By its very nature, the multiple site structure entails a set of coordination and delivery costs that are over and above operating costs at a single campus: for example, the travel required for administrators and faculty. It makes sense to direct cost minimization strategies toward these incremental costs. Such strategies could involve nothing more than establishing limits on the distance between a main campus and its branches or centers. More complex strategies might be built around electronic communications for administrative, instructional, and library services.

2. In accord with state goals for access to higher education:

   a. Restrict the nature and extent of the curriculum.

      The nature of the curriculum has a direct bearing on unit costs and therefore must be included in any complete set of strategies for containing costs. The impact on costs of the breadth and depth of the curriculum, however, always occurs in tandem with the size of the overall instructional operation. Small size coupled with an extensive curriculum virtually guarantees high unit cost. Thus, curriculum planning for branches and centers must be linked carefully with estimates of student demand.

   b. Target at least some support services at minimally adequate levels rather than at main campus levels.

      If the costs of coordination and sharing resources among campuses and centers are to be offset, it is likely that some support services will have to be curtailed relative to main campus standards. Joint-use facilities offer an example of how services in two areas, libraries and physical plant, can be provided at less cost than at stand-alone branches or centers. At the same time, the level of services at branch campuses and centers should meet minimum standards with respect to the curriculum and the students being served. What we are suggesting is that for some support services minimum standards may be a more appropriate target than the level of service offered at the main campus.

   c. Establish minimum enrollment targets.

      Given that branches and centers are prone to experiencing diseconomies of scale, it would be worth considering setting minimum enrollment targets for university branches and centers. We note that such targets already exist for centers and campuses within the community college system.

3. Routinely compare the cost-effectiveness of duplicating main campus services, using main campus services as needed, sharing resources with another institution, or changing the level of service.

   We suggest that a thorough exploration of alternative means of providing services be made a common practice at the branches and centers. We would caution against simply assuming that adequacy can be achieved only through duplication of main campus resources. In other words, we are suggesting that creative responses are needed rather than a "business as usual" approach. Some of these responses may require additional capital outlays in the short run; use of enhanced electronic communications would be a case in point.

4. Continue to examine and develop procedures for allocating costs from the main campuses to the branch campuses and centers.

   It is important that reasonably accurate and reliable cost information on branch campuses and centers be available but such information is not easily obtained. Allocation of main campus expenditures to the branches and centers is particularly challenging. While the allocation procedures developed for this study are a significant step in the right direction, it remains unclear whether the procedures used are sufficiently sensitive to differences among institutions. Thus we suggest additional efforts to improve these procedures. At the same time, we would note that there are limits to the precision with which these allocations can be made, and that at some point further effort will become wasteful.

Findings for Community College Campuses

1. There was considerable variation among the campuses in expenditures per student credit hour or per headcount student in every area examined. Table B shows mean values and the differences in unit expenditures for the campuses in the survey. As the data show, for all functions combined the most expensive campus spent 2.1 times as much per student credit hour as the least expensive campus. When similar comparisons were made in terms of student credit hours or student headcount per full-time equivalent (FTE) staff position, differences among the campuses were again substantial. Variations in instructional programs, size of campus, clientele, and use of adjunct staff no doubt account for most of these differences in unit expenditures and FTE staff utilization rates.

Table B. Expenditures at Twenty Community College Campuses

	Per Student Credit Hour		Per Student Headcount	
Function	Mean Values	Maximum/ Minimum	Mean Values	Maximum/ Minimum
Instruction	$48	2.5	$712	4.4
Academic Administration	7	3.0	106	3.8
Library Resources-Ed Media	5	3.6	81	5.9
Student Services	14	4.7	191	3.1
Institutional Support	22	2.2	328	3.5
Plant Operation and Maintenance	13	---*	197	---*
All Support	61	2.7	902	3.6
All Functions	107	2.1	1,614	3.4

*One campus in a joint-use facility reported zero physical plant expenditures.

2. Central office resources were allocated to the individual campuses in an institution in proportion to the student credit hours generated by each of the campuses. The on-site share of total campus expenditures was highest in instruction, plant operations and maintenance, and library resources, and lowest in institutional support. Among campuses, the greatest variation in the share of total expenditures occurring on site was in institutional support. Evidence was found that at least some support services are less expensive when provided centrally than when they are provided on site at the campuses. The evidence was developed as part of a simple statistical analysis and ought not be taken as definitive.

For community colleges, we suggest two strategies to follow in the effort to minimize costs:

1. Better understand cost variations among campuses; emulate good practice whenever possible.

   The variations in unit costs among the campuses are large. As such, they may offer an opportunity for cost savings. We would suggest that cost analysis efforts be directed toward better understanding these variations, especially between the very high cost and the very low cost operations. We do not doubt that some, if not most, of these variations can be explained in terms of differences in programs, students, or other circumstances about which little can be done. But some examples of especially good practice, economically speaking, may also be discovered, which could be shared with, and then emulated by, other campuses.

2. Further explore the relative efficiencies of centrally produced support services versus services produced at the campuses.

   The statistical finding that some centrally produced support services may be less expensive than locally produced services is worth further investigation. Similarly, the electronic and information revolution of recent times means that alternative technologies are available for "connecting" campuses with central offices (and each other). It is reasonable to assume that some approaches will be more cost effective than others.

Related Activities in Other States

A literature search for information about procedures used to determine the costs of branch campuses and centers in other states produced little that was directly relevant to the costing issues discussed in this report. We conclude that useful guidelines for allocating main campus expenditures to branch campuses and centers will not be found out in other state systems.

Branch Campus and Center Cost Study
Florida State Universities and Community Colleges

In proviso language accompanying Specific Appropriations 534 through 537A the 1987 Legislature provided funds for the Postsecondary Education Planning Commission (PEPC) to "study the operating costs of branch campuses and centers at community colleges and universities to identify strategies for minimizing additional costs of branch campuses and center operations over and above the same services provided at main campuses." PEPC subsequently contracted with Paul Brinkman and Dennis Jones of the National Center for Higher Education Management Systems to design and analyze a survey of costs at branch campuses and centers, to identify strategies to minimize additional costs at branch campuses and centers, and to examine costing procedures for branch campuses and centers in other states. This document reports on the methodology and results of their study.

I. Conceptual Issues

Before we discuss the survey itself, a few comments are in order on the nature of costs and cost analysis in higher education, particularly as they relate to this study. To begin with, there are many costs in higher education. In this study the only costs considered take the form of recorded institutional expenditures for operations and some equipment costs. No consideration is given to costs incurred by students, either in the form of expenditures or opportunity costs (the value of their time). This is in keeping with the intent of the legislation, but it does ignore issues that are part and parcel of the rationale for having branch campuses and centers in the first place--the impact they have on reducing certain student costs and thereby enhancing access. Capital costs for buildings are also ignored. Opportunity costs for faculty in the form of time spent traveling between campuses is another example of a cost that is not being included in this study. Again, this is appropriate in this context, but it would be inappropriate to overlook such costs when considering the overall issue of the costs and benefits of branch campuses and centers as a mode of delivering higher education.

The question asked by the Legislature is clearly reasonable in its own right, but it presumes much about the prospects for determining both the what and the why of certain institutional costs. In reality, some of these costs may be difficult to determine and the reasons for them may be difficult to pin down with much certainty. Some commentary on this follows.

Restricting the analysis to institutional expenditures makes the study more manageable, but it by no means makes the cost determination straightforward. First, given the question, cost allocation from the main campus to the branches and centers is unavoidable and cost allocation is almost always arbitrary. It is unavoidable because some of the costs of operating a branch campus or center are associated with resources, administrators for instance, that are used to produce services at both the main campus and the branch campus or center. Institutional accounts are normally not kept in such a way as to facilitate allocating a portion of these costs to another campus. In addition, in some instances the resources are used in a joint production mode in which the services are produced simultaneously. For example, a decision regarding the curriculum for the institution as a whole will affect both the main campus and the branches and centers. Thus, some portion of the cost of having the main campus dean take part in the decision process ought to be attributed to branches and centers. Unfortunately, any allocation under this circumstance is necessarily arbitrary. In both instances cost analysts usually fall back on a rule of thumb such as allocating costs in proportion to student credit hours. This produces at best a rough approximation of actual costs.

A second reason why the cost analysis is not straightforward is that the question is formulated in such a way as to require an understanding of the reasons for the costs being what they are. But there are always many reasons for costs being what they are: prices, scale effects, program related differentials with respect to required levels of resources, accidents of history, and so on. The situation in any institution is complex and the influence of particulars specific to the situation is likely to be strong, perhaps strong enough to hide (overwhelm) the systematic factors that the legislature is really interested in, i.e., phenomena that recur in expected ways and thus can be managed. This is especially true in the situation in question because there are relatively few cases to study. The small number of institutions somewhat limits, for instance, our ability to uncover the relative influence of various factors through a statistical analysis. The problem is intensified in the case of joint-use facilities, which are not only few in number but relatively new, still evolving, and quite varied in structure.

Third, like most human enterprises, the process of providing higher education services is only moderately constrained in the manner in which it can be produced and delivered. There are usually a variety of choices available with respect to resources, such as regular versus adjunct faculty, and resource utilization, such as student-faculty ratios. The existence of these choices has considerable impact on what can be learned from a cost study such as this one, and for cost minimization strategies generally.

To elaborate on this third issue, we note that attempts to understand costs and develop cost minimization strategies must take into account both the number of inputs (by type) and the price of each of the inputs that go into the production process. For purposes of the present comparative cost study, it is assumed that any differences in costs are not due to differences in the prices that institutions face. This would seem to be a reasonable assumption, given that all of the operating units are not only within the same state but, when viewed in terms of a main campus and its branches, also within the same region of the state. Furthermore, the assumption adds to the manageability of the study. It remains an assumption nonetheless.

But market prices are only half the story, because most higher education institutions have some latitude in the particular resources they obtain, and therefore in the actual prices they must pay. Staff salaries are the prime example. Even though national levels of faculty and administrator salaries are widely known, institutions have options as to where they wish to position themselves on the scale (a cost versus competitiveness tradeoff). The proportion of faculty to be employed part-time is another important choice. For branch campuses, the use of faculty on an overload basis is another strategy that can have an impact on costs.

The number of inputs required depends on what services are offered, to whom, and under what circumstances. The circumstances of production are of particular interest in this study. One such example is the distance main campus employees must travel when they have work assignments at a branch campus or center. Another circumstance is the joint-use situation, which makes it possible for institutions to share at least some resources.

The optimum relationship between inputs and outputs in the educational process is not easily determined. Although, as noted, differences in resource requirements by discipline are widely acknowledged, one cannot find convincing evidence that a particular student-faculty ratio or class size is the optimum, or that a particular mode of instruction is best, or that a particular level of library resources has predictable educational outcomes, except perhaps in very special circumstances. Therefore, those who provide instructional services have some latitude in deciding how the services are to be provided; in turn, unit costs (e.g., cost per credit hour) can be expected to vary.

Finally, this particular cost analysis is difficult because of the absence of a good baseline, or evaluative framework. This is especially true in the case of community colleges because their normal structure is multicampus, as opposed to a main/branch structure. There is little within the state to juxtapose to the prevailing multicampus structure. To go out of state would have entailed a very different approach to the cost study.

In the case of the universities, costs at the main campus are the obvious baseline. Unfortunately, at least some of the functions of interest include responsibility for activities that are not likely to occur at the branch campuses or centers to anywhere near the same level as they do on the main campus. For example, administrative responsibilities on main campuses often include extensive activities related to sponsored (separately budgeted) research; at branch campuses these activities may be nonexistent or nearly so. Thus, comparing costs between the main and the branch campus or center is not a simple matter.

It must be emphasized that the various choices described above--levels of instruction, institutional size, composition of the curriculum, levels of pay, full-time versus part-time faculty, extent of library resources--ought not to be made from purely a cost or economic perspective. The quality, breadth, and cohesiveness of the services offered are also issues to consider. After all, the whole point of having branch campuses and centers is to increase geographical access for students. If what they are given access to is quite "thin," one can question the equity or fairness for the students involved. In other words, cost minimization strategies must be considered within a larger context of state goals for higher education.

II. Study Design

A cost study addressing the interests of the Legislature could have been done in one of two ways: by detailed case studies or by surveys. The latter approach was chosen because it allowed a wider coverage of institutions given the resources available for the study. The survey instruments were designed in rough form by the consultants, then in detail in a meeting with representatives of the two system offices and several of the campuses. The account structures are virtually identical in the university and community college surveys. The former survey focuses on the branch versus main campus issue while the latter survey focuses on individual campus versus institution-wide functions. A separate, additional survey was used for joint-use facilities. These surveys can be found in the Appendix.

The surveys were designed to develop basic data on actual expenditures, FTE staff, and student credit hours for the fiscal year 1986-87. For joint-use facilities, respondents were given the opportunity to estimate savings that occur because of the joint-use arrangement, and all university branches and centers were given an opportunity to indicate what, if any, additional resources would be needed to bring their level of services up to a par with those available on the main campus.

The campuses and centers included in the analysis are the following:

- Universities
  - Florida State
    - Panama City
  - South Florida
    - St. Petersburg
    - Sarasota
    - Joint-Use Facility with Edison in Ft. Myers
  - Florida Atlantic
    - West Palm Beach
    - Ft. Lauderdale (Commercial Boulevard)
    - Joint-Use Facilities with Broward and FIU (Davie and Tower)
  - West Florida
    - Joint-Use Facility with Okaloosa-Walton Junior College in Fort Walton Beach
  - Central Florida
    - South Orlando
    - Joint-Use Facility with Brevard
    - Joint-Use Facility with Daytona Beach
  - Florida International
    - Bay Vista (North Miami)
    - Joint-Use Facilities with Broward and FAU (Davie and Tower)
- Community Colleges
  - Brevard (Melbourne, Titusville, Cocoa)
  - Broward (Central, North, South, Ft. Lauderdale)
  - Daytona Beach
  - Edison
  - Florida Junior College (Downtown, Kent, North, South)
  - Miami-Dade (North, South, Wolfson, Medical)
  - Okaloosa-Walton
  - Pasco Hernando (East, North, West)
  - Valencia (East, West)

III. Survey Results

The results of the expenditure surveys are discussed in three parts. We begin with the university sector, including some initial analysis on branch campuses or centers located in joint-use facilities, then examine the community college results, and finish with a discussion of joint-use facilities based on a separate survey for those installations.

A. University Branch Campuses and Centers

Fifteen university branch campuses and centers responded to the survey. In reporting their responses, the focus will be on the distribution of costs for the group as a whole, or for stand-alone versus joint-use facilities, rather than on individual branches or centers.

Unit Expenditures

Table 1 shows a variety of cost data for the group. Panel A reports on expenditures per unweighted student credit hour. Unless otherwise stated, expenditures for a function or object category are always total expenditures, that is, they include both the expenditures incurred on site at the branch or center and the expenditures which were incurred on the main campus and allocated to the branch or center. As will be true time and again in the survey results, there is considerable difference in the data values among the campuses. In all instances, the maximum values are many times larger than the minimum values. Two measures of central tendency, the mean and the median, are shown. Because many of the distributions had one or more extraordinary values (mostly on the high end), the median is usually the better indicator of central tendency for the data on university branches and centers. (The median is an average of position. It is the middle value when the values are ranked according to size.)

The bottom portion of Panel A contains data that reflect costs at the six main campuses whose branches or centers are included in the study. These data are included to provide one way of assessing costs at the branches and centers. For student services, the data in this panel were calculated by simply dividing reported expenditures for that function by reported total student credit hours. For institutional support (general administration) and plant operation and maintenance, reported expenditures were adjusted downward before dividing by student credit hours. The adjustment entailed reducing reported expenditures in proportion to the share of total institutional expenditures for research and public service. For example, if the latter activities constituted ten percent of all institutional expenditures, then reported institutional support expenditures would be reduced by ten percent before inclusion in Panel A. This is a way of acknowledging, albeit in a crude fashion, the likelihood that research and public service are far more significant at the main campus than at the branches or centers, and thus that some portion of main campus institutional support and plant expenditures are used for purposes that are not comparable to those at the branch campuses or centers. Expenditures for academic administration were not included in this particular comparison because the survey data were not comparable to available main campus data.

As the data in Panel A indicate, the branch campuses spend more per credit hour for institutional support and student services than do the main campuses. By contrast, median values for plant operation and maintenance are very close. Similarly, in Panel B, it can be seen that there are only small differences between instructional and library costs per weighted student credit hour at the two types of campuses. Library costs are actually slightly lower at the branch campuses and centers. Weights by level of instruction are used in acknowledgment of the pattern in higher education that higher levels of instruction typically cost more on a unit basis. For this study, lower

Table 1. Expenditures at University Branch Campuses and Centers, 1986-87

Function	Minimum	Maximum	Mean	Median
A. Expenditures per Student Credit Hour (Unweighted)				
Instruction	$56	$218	$104	$84
Academic Administration	16	71	35	31
Library-Audio Visual	2	263	27	8
Student Services	12	68	22	18
Institutional Support	25	119	46	37
Plant O & M	3	116	28	18
All support	82	570	158	122
All functions	142	788	261	212
At the corresponding main campuses (net of branch figures):				
Student Services	5	10	8	8
Institutional Support	16	25	20	19
Plant O & M	16	33	22	23
B. Expenditures per Student Credit Hour (Weighted)				
Instruction	28	103	55	41
Library-Audio Visual	1	124	13	5
At the corresponding main campuses (net of branch-center figures):				
Instruction	34	59	46	44
Library-Audio Visual	5	17	9	7
C. Expenditures per Headcount Student				
Student Services	172	547	278	257
Institutional Support	246	1,451	613	473
Plant O & M	26	1,222	374	235
At the corresponding main campuses (net of branch-center figures):				
Student Services	109	245	177	178
Institutional Support	356	560	443	435
Plant O & M	322	734	497	458
D. Expenses per Student Credit Hour (Unweighted)				
Branch-Center	4	361	47	18
Main Campus	10	28	15	15
Total	20	388	62	32

Student credit hour weights: lower div. = 1; upper div. = 1.5; graduate =3. All main campus expenditures are net of allocation to branches and centers, and library, institutional support, and plant O & M expenditures are adjusted to reflect main campus involvement in research and public service.

division credits were assigned a weight of 1, upper division credits a weight of 1.5, and graduate credits a weight of 3. Any weights one might use are arbitrary in the final analysis, but these particular values are in general accord with mean values for actual costs reported by numerous institutions across the country (Brinkman 1985). A graduate weight of 3 probably understates the cost for institutions with a significant proportion of students at the doctoral level. In this study, USF and especially FSU meet that criterion. A plausible increase in the graduate weight for these two institutions would have only a modest impact on the median value for instructional cost. For example, a weight of 4 would result in a median value of $43 per student credit hour versus the $44 figure shown in Panel B.

Expenditures in several functional areas probably relate best to headcount enrollment. Panel C shows expenditures per headcount student for three of those areas, for both the branches and centers and their respective main campuses. As the data indicate, costs for student services and institutional support are higher at the former, while plant costs (excluding capital costs) are lower.

Data on expenses, an object of expenditure rather than a functional expenditure category, are reported in Panel D of Table 1. Obviously there are extremely large differences among the branches and centers for this type of cost, reflecting for the most part the different kinds of arrangements used by the campuses to handle certain functions such as plant operation and maintenance. In general, one would expect expenses to be relatively high at branch campuses because of the travel required for both faculty and administrators. Some evidence for this is provided below (see the discussion relating to Table 7).

Very little systematic information flows from data as disparate as these, other than the fact of the differences, which is itself useful to keep in mind. That is, if the cost experiences of branch campuses and centers have been so different from one unit to the next, at least with respect to some types of expenditures, then these experiences will probably not be as useful as one might hope in planning for future campuses and centers.

Expenditure Ratios

Table 2 shows the distribution of results for a series of expenditure ratios. In Panel A, the data shown are ratios of expenditures in various support areas to expenditures for instruction. For example, the data indicate that the branches and centers spend, on average, a little over a third (.36) as much on academic administration as on instruction. In other words, for every $10 spent for instruction, $3.60 is spent for academic administration. Over all, they spend about one-and-a-half as much for support activities (mean = 1.55; median = 1.38) as for instruction. Given the high proportion of fixed costs involved in institutional support and academic administration, one would expect those ratios to decline somewhat as the branches and centers increase in enrollment. In two of four instances, the median values for the ratios at the branches and centers are lower than at the main campuses. Library and physical plant are two areas where the branches and centers consistently seem to do better than the main campuses from a strictly economic perspective. One certainly can ask, however, and branch and center personnel are quick to do so, whether the library services in particular are comparable.

Table 2. Expenditure Ratios at University Branch Campuses and Centers, 1986-87

Function	Minimum	Maximum	Mean	Median
A. Support Expenditures / Instructional Expenditures				
Academic Administration	0.18	0.64	0.36	0.36
Library-Audio Visual	0.01	1.21	0.19	0.12
Student Services	0.09	0.48	0.23	0.22
Institutional Support	0.19	1.41	0.49	0.39
Plant O & M	0.02	1.19	0.27	0.15
All Support	0.58	3.03	1.55	1.38
At the corresponding main campuses (net of branch-center figures):				
Library-Audio Visual	0.13	0.29	0.19	0.18
Student Services	0.07	0.14	0.11	0.12
Institutional Support	0.24	0.36	0.28	0.27
Plant O & M	0.25	0.34	0.31	0.32
B. Instruction: OPS / Salaries & Benefits				
Branch-Center on site	0.00	0.86	0.17	0.09
Main Campus allocation	0.00	0.45	0.20	0.18
Total	0.07	1.08	0.22	0.15
C. Instruction: OPS + Salaries & Benefits / Total				
Branch-Center on site	0.00	1.00	0.80	0.89
Main Campus allocation	0.74	1.00	0.89	0.88
Total	0.74	0.96	0.89	0.89
D. Student Credit Hour Ratio versus Expenditure Ratio				
Branch-Center / Main Campus Student Credit Hours				
Unweighted	0.003	0.201	0.057	0.028
Weighted	0.004	0.206	0.064	0.032
Branch-Center / Main Campus Expenditures (net)				
Instruction	0.004	0.456	0.084	0.054
Library-Audio Visual	0.000	0.369	0.087	0.056
Student Services	0.006	0.466	0.148	0.099
Institutional Support	0.004	0.498	0.125	0.080
Plant O & M	0.001	0.555	0.073	0.028

Panels B and C provide data on aspects of Other Personnel Services (OPS) and Salaries and Benefits for regular staff. While one might expect OPS to be relatively large in proportion to salaries and benefits in instruction at branch campuses and centers, the overall median value of .15 does not appear high (Panel B). Not surprisingly, nearly 9 of every 10 dollars spent on instruction is for personnel compensation (Panel C).

As shown in Panel D, the branch campuses and centers account for about 3 percent as many credit hours as their respective main campuses do (as measured by the weighted credit hour median). The corresponding ratio for expenditures, branch-center to main campus, is about the same for plant operations and maintenance. The ratio is higher for instruction and library services, and considerably higher for institutional support and student services. The underlying data used in the ratios are the same, of course, as those used in Panel A and B in Table 1, with one important difference. In Table 1, as well as in Panel A of Table 2, means and medians for main campus net expenditures and support-to-instruction ratios are based on only six data points--the number of main campuses. By contrast, in Panel D of Table 2 the means and medians are based on 15 data points--the number of combinations of main campuses and branches or centers. Presented in this alternative fashion, the results reinforce those in Table 1 with respect to plant operations and maintenance, but increase the relative expensiveness of branches and centers for all of the other functions shown.

On-Site versus Allocated Expenditures

Table 3 contains data on the division of expenditures between those recorded on site at the branches and centers and those allocated to the branches and centers from their respective main campuses. Looking at the median values in Panel A, we see that the areas in which most of the expenditures are initially recorded at the branches and centers are, not surprisingly, instruction and plant operations. Conversely, about two-thirds of the expenditures for academic administration and institutional support are allocated from expenditures at the main campus. Almost all of the instances in which all costs occurred at the main campus involved either FAU or FIU in connection with the Broward sites at Davie or Tower. There appear to be significant differences between stand-alone and joint-use facilities with respect to most of the functions shown (Panel B). At the stand-alone facilities, the share of expenditures attributed to the main campus is higher for instruction, academic administration, and institutional support, but lower for libraries and physical plant. Given the small samples and the variability among the sites, it would probably be unwise to make too much of these particular comparisons.

As noted earlier, allocating costs typically entails making arbitrary decisions. At the same time, the data in Table 3 show how important the allocation is, in that just over 40 percent of all expenditures and just over 50 percent of all support expenditures attributed to the branches and centers come from allocated main campus expenditures.

The allocation procedures used for this study were worked out over a period of some weeks. The survey contained allocation procedures for instruction, but left the procedures for the support areas to be agreed upon by a group of BOR staff and institutional representatives. This group originally used a

Table 3. Share of Total Branch-Campus or Center Expenditures Incurred at the Main Campus*

A. Distribution of Sample Results

Function	Minimum	Maximum	Mean	Median
Instruction	0.02	1.00	0.39	0.16
Academic Administration	0.20	1.00	0.65	0.70
Library-Audio Visual	0.01	1.00	0.43	0.33
Student Services	0.20	1.00	0.58	0.59
Institutional Support	0.24	1.00	0.67	0.65
Plant O & M	0.09	1.00	0.28	0.16
All support	0.14	0.78	0.52	0.56
All functions	0.23	0.82	0.43	0.42

B. Stand-Alone Versus Joint-Use Facilities

Function	Stand-Alone Facility Mean	Joint-Use Facility Mean	Stand-Alone Facility Median	Joint-Use Facility Median
Instruction	0.41	0.37	0.41	0.14
Academic Administration	0.66	0.63	0.74	0.54
Library-Audio Visual	0.23	0.61	0.20	0.68
Student Services	0.59	0.58	0.60	0.57
Institutional Support	0.70	0.64	0.75	0.62
Plant O & M	0.13	0.41	0.11	0.22
All support	0.53	0.50	0.50	0.57
All functions	0.48	0.40	0.48	0.38

*The figures shown, representing main-campus shares, are calculated by dividing main-campus expenditures that have been allocated to branch campuses or centers by total branch-campus or center expenditures, which include the main-campus allocation.

straight-line approach in which a branch or center was allocated main campus costs (total institutional costs minus on-site branch campus costs) on the basis of relative numbers of workload units (student credit hours, headcount students enrolled, or gross square feet of physical space, depending on the function) at the respective campuses. The figures shown in Table 3 reflect a subsequent iteration in which the BOR staff and the institutional representatives reduced the allocations for all of the support functions except institutional support. The intent of the reductions was to reflect more accurately the actual nature of the activities conducted at the respective campuses. For example, at some main campuses most of the activities included within the plant operation and maintenance category are directed toward main campus facilities only. There is no reason why a straight-line share of the costs of those activities should be allocated to the branches or centers.

The following multipliers were used to bring about reductions from what would have been allocated on a straight-line basis: .10 of OCO in academic administration, .15 for library/audio visual, .75 for student services, and .20 for plant operations and maintenance, with zero expenditures being allocated for utilities. As noted, there was no reduction for institutional support, i.e., the multiplier was set at 1.00. We have no way of evaluating these particular figures, but clearly the basic principle involved is reasonable. The relative sizes of the multipliers are plausible too. Physical plant staff at the main campus, for example, tend to have few responsibilities for the operation and maintenance of the branch campus or center facilities, and thus a low multiplier is appropriate. In student services, by contrast, many of the main campus activities, such as record keeping and student aid administration, will fully include service to branch campus or center students, and thus a higher multiplier is appropriate.

Less obvious, however, is the rationale for treating all main campuses the same. Doing so may make sense for institutional support, because so much of the expenditures are for functions, such as executive management and legal services, that are not tied to any one segment of the institution and thus can be allocated fairly to all segments using some form of straight-line approach. In other functional areas, the services provided at the branches and centers could affect materially the share of main-campus expenditures that should be allocated to the branches and centers. It is conceivable, for instance, that a branch campus might provide many or only a few of the services included within the general category of student services. For at least some of the services provided by the branch campus, the load on the main campus will probably be lightened or even eliminated. For example, if counseling and career guidance are available at a particular branch campus, there should be less or no demand for these services at the main campus on the part of those branch-campus students. The allocation of main-campus student services expenditures to that branch campus should reflect this situation as compared to one in which counseling and career guidance are not provided at the branch campus.

It may be that the range of noninstructional services provided at the branch campuses and centers is generally the same. If so, it would be appropriate to use a common set of multipliers to adjust allocations to those campuses and centers. The range of services provided is an empirical question. Our survey was not designed to address this question, but it should not be lost sight of by those evaluating the overall cost picture for branch campuses and centers.

Stand-Alone versus Joint-Use Facilities

Table 4 presents the first of several perspectives on the economics of joint-use facilities. As noted earlier, there are not many of these arrangements, and of those in existence, several are quite new. Accordingly, the analysis will perforce have to be more suggestive than definitive. The primary suggestion flowing from the data in Table 4 is that, on average, the costs at the eight joint-use facilities included in the analysis are not necessarily lower than at stand-alone branches or centers. The areas of savings, library and plant operations and maintenance, are as expected. In the other areas, unit costs (per student credit hour or per headcount student) for branches and centers in joint-use facilities are comparable or higher than at stand-alone facilities. Again, the medians tend to be more reliable indicators of central tendency than the means.

The savings in library and plant costs translate into lower overall support costs at the joint-use facilities as a proportion of instructional costs (Table 5, Panel A). Currently, instructional costs at those facilities are modestly higher than at the stand-alone branches and centers. This might well be due to the relatively small size, on average, of the former. In the longer term, presuming growth in enrollment, the joint-use arrangements may become quite economical.

The basic cost patterns that emerge from comparing stand-alone with joint-use facilities carry over when the analysis turns to "productivity" per FTE employee. The data in Panels A, B, and C in Table 6 are presented in such a way that the higher the number the better, from an economic efficiency standpoint. As expected, student credit hours and headcount enrollment per FTE position are relatively high for library and plant operations and maintenance at the joint-use facilities. For support functions overall, the "productivity" figures are virtually identical for the two types of facilities (Panels A and C). Perhaps the most striking difference between them is in instruction. Student credit hour production at the stand-alone facilities is twice that at the joint-use facilities. Presumably this is due to a combination of relatively low utilization rates for regular faculty as well as somewhat higher use of adjunct staff for instruction at the latter locations. In any event, the combination of similar support figures and quite different instruction figures yields the large differences in support-to-instructional staff ratios in Panel D (top). Interestingly, despite the differences function by function, overall the share of FTE positions actually located at the branch or center, in relation to the total number of FTE positions attributed to branch or center operations, is virtually the same at the joint-use facilities as it is at the stand-alone facilities (Panel D, bottom rows).

Statistical Analysis

Table 7 presents the results of a series of regression analyses designed to provide additional insights about cost behavior at the branch campuses and centers. The dependent variable is, alternatively, total expenditures for instruction, all support functions, or all functions (Panel A) or expenditures per student credit hour for expenses (Panel B). The independent

Table 4. Expenditures at University Branch Campuses and Centers: Stand-Alone Versus Joint-Use Facilities, 1986-87

Function	Stand-Alone Facility Mean	Joint-Use Facility Mean	Stand-Alone Facility Median	Joint-Use Facility Median
A. Expenditures per Student Credit Hour (Unweighted)				
Instruction	$81	$123	$72	$87
Academic Administration	33	37	29	35
Library-Audio Visual	13	39	9	3
Student Services	18	25	18	18
Institutional Support	38	52	37	38
Plant O & M	21	35	18	9
All support	123	188	122	127
All functions	204	311	195	240
B. Expenditures per Student Credit Hour (Weighted)				
Instruction	48	61	41	51
Library-Audio Visual	8	19	5	1
C. Expenditures per Headcount Student				
Student Services	245	312	257	261
Institutional Support	537	689	469	571
Plant O & M	328	421	313	157
D. Expenses per Student Credit Hour (Unweighted)				
Branch-Center on site	18	72	18	21
Main Campus allocation	13	17	13	15
Total	32	89	31	36
E. Equipment Acquisition Cost				
Per SCH (Unweighted)	31	84	25	33
Per Headcount	475	1005	328	425
Per Gross Square Foot	7	8	4	8

Table 5. Expenditure Ratios at University Branch Campuses and Centers: Stand-Alone Versus Joint-Use Facilities, 1986-87

Function	Stand-Alone Facility Mean	Joint-Use Facility Mean	Stand-Alone Facility Median	Joint-Use Facility Median
A. Support Expenditures / Instructional Expenditures				
Academic Administration	0.41	0.33	0.36	0.34
Library-Audio Visual	0.15	0.22	0.15	0.04
Student Services	0.25	0.21	0.22	0.19
Institutional Support	0.49	0.50	0.49	0.39
Plant O & M	0.24	0.30	0.24	0.10
All Support	1.54	1.56	1.60	1.31
B. Instruction: OPS / Salaries & Benefits				
Branch-Center on site	0.14	0.19	0.12	0.07
Main Campus allocation	0.25	0.17	0.22	0.16
Total	0.29	0.16	0.16	0.14
C. Instruction: OPS + Salaries & Benefits / Total				
Branch-Center on site	0.76	0.83	0.92	0.88
Main Campus allocation	0.87	0.91	0.88	0.94
Total	0.91	0.86	0.91	0.89
D. Student Credit Hour Ratio versus Expenditure Ratio				
Branch-Center / Main Campus Student Credit Hours				
Unweighted	0.077	0.039	0.061	0.024
Weighted	0.083	0.047	0.063	0.028
Branch-Center / Main Campus Expenditures (net)				
Instruction	0.123	0.053	0.105	0.048
Library-Audio Visual	0.119	0.063	0.068	0.009
Student Services	0.205	0.103	0.180	0.083
Institutional Support	0.180	0.082	0.174	0.059
Plant O & M	0.128	0.029	0.049	0.022

Table 6. FTE Staff at University Branch Campuses and Centers:
Stand-Alone Versus Joint-Use Facilities, 1986-87

Function	Stand-Alone Facility Mean	Joint-Use Facility Mean	Separate Facility Median	Joint-Use Facility Median
A. Student Credit Hours (Unweighted) per FTE Staff				
Instruction	986	473	1,036	506
Academic Administration	1,816	1,734	1,887	1,558
Library-Audio Visual	7,042	18,627	2,644	22,927
Student Services	1,658	1,390	1,806	1,357
Institutional Support	1,016	914	1,004	968
Plant O & M	3,920	5,329	2,293	3,502
All support	325	320	330	323
All functions	241	179	262	213
B. Student Credit Hours (Weighted) per FTE Staff				
Instruction	1,531	786	1,617	867
Library-Audio Visual	10,946	30,799	4,138	32,950
C. Headcount Enrollment per FTE Staff				
Academic Administration	144	156	152	144
Library-Audio Visual	515	1,328	238	1,542
Student Services	125	94	106	102
Institutional Support	81	67	74	64
Plant O & M	362	462	135	264
All support	26	25	22	22
D. FTE Staff Ratios				
Support / Instruction	2.91	1.72	2.85	1.83
Branch-Center / Total (branch-center plus allocation at main campus)				
Instruction	0.66	0.66	0.93	0.85
Academic Administration	0.43	0.47	0.27	0.46
Library-Audio Visual	0.70	0.17	0.82	0.00
Student Services	0.39	0.45	0.44	0.49
Institutional Support	0.34	0.35	0.23	0.32
Plant O & M	0.72	0.21	0.68	0.00
All support	0.49	0.45	0.49	0.49
All functions	0.54	0.57	0.58	0.55

Table 7. Regression Analysis of Expenditures at University Branch Campuses and Centers, 1986-87

	Independent Variables					
Dependent Variable	On-Site Expenditures/ Total Branch or Center Expenditures*	Branch or Center SCH/ Main SCH**	Miles: Branch or Center to Main	Total Student Credit Hours	Joint-Use Facility (Yes/No)	R-Squared
A. Total Expenditures***						
Instruction	0.77	3.48	-0.0002	0.76	0.10	.98
	(2.68)	(1.62)	(-.07)	(8.77)	(0.52)	
All Support	2.05	0.94	-0.001	0.93	0.09	.99
	(9.11)	(1.13)	(-1.10)	(28.78)	(1.54)	
All Functions	1.04	2.80	0.001	0.81	0.02	.99
	(2.84)	(1.82)	(0.40)	(16.19)	(0.14)	
B. Expenditures per Student Credit Hour****						
Expenses		40.70	0.26	0.00	5.05	.74
		(0.49)	(3.93)	(0.73)	(1.11)	

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*Total branch or center expenditures includes an allocated portion from main campus expenditures.
**SCH = student credit hours.
***Excludes FAU Broward Tower campus.
****Excludes FAU Broward Davie and Tower campuses.

variables consist of the ratio of on-site branch or center to total branch or center expenditures (i.e., on-site plus allocated expenditures from the main campus), the ratio of branch or center student credit hours to main campus student credit hours, the distance between the branch or center and the main campus, the number of branch or center student credit hours, and a dummy variable signifying whether or not the branch or center is in a joint-use facility.

The regression results are presented in the form of regression coefficients and t-scores (in parentheses) for the independent variables and R-squared values for the model as a whole. The sign on the t-scores is of particular interest, as is the magnitude. A value greater than 2.3 is required for statistical significance (at the .05 level), but values greater than 1 are suggestive. (A value that is statistically significant is one that is unlikely to be due to chance.) The R-squared value indicates how well the model performs statistically. Values can range from zero to 1; the higher the better.

The results can be summarized as follows. In Panel A the coefficients on the student credit hour variable are expressed in the form of elasticities (i.e., the percentage change in total expenditures that accompanies a one percent increase in student credit hours). Any time the estimated elasticity is less than one, the indication is that increases in total expenditures have not kept pace with increases in student credit hours. For the three models shown in Panel A, all of the estimated coefficients on student credit hours are less than one and statistically significant. In other words, there are economies of scale present with respect to student credit hours (i.e., the larger the number of credit hours, the lower the cost per credit hour). This is to be expected, as economies of scale in higher education have been well documented (Brinkman and Leslie 1986).

A second result of interest in Panel A is that the ratio variable, on-site to total branch or center expenditures, is positive and statistically significant in all three models. In other words, total expenditures tend to be higher in situations where a greater share of expenditures are spent at the branch or center rather than at the main campus, other things in the model being equal. This finding may not be convincing evidence that it is better, economically speaking, to keep resources at the main campus and deliver services from there to the branches and center, but it certainly suggests that.

In Panel A, the coefficients on the ratio variable, branch-center student credit hours to main-campus student credit hours, are consistently positive but are not statistically significant. There is some statistical support in evidence, however, which suggests the possibility that larger branches or centers, as measured against their main campuses, have higher costs. One can only speculate on the meaning of this possibility, but one way of interpreting it is that a branch or center that is relatively large compared to the main campus tends to take on more of the characteristics of full-fledged operation and thus experiences higher costs.

Also in Panel A, there is a suggestion that expenditures for support functions at joint-use facilities are higher than at stand-alone facilities, other things in the model being equal. We cannot be confident, however, that this suggestion is not a matter of chance.

The result of interest in Panel B is that the distance from the branch or center to the main campus is statistically significant with respect to the expenditure category "expenses." The greater the distance the greater the expense. This is to be expected, of course, but it is useful to know that the effect is large enough to be detected in this simple statistical analysis.

We note that additional data (not part of this survey) are being gathered by university staff regarding expenses associated with faculty travel between main campuses and branches and centers. Results for one institution were available as we prepared this report: In 1986-87 faculty travel costs for instructional purposes averaged about $52,000 for the three branches operated by USF. These partial results along with those from the regression analysis indicate that travel costs and thus distances between campuses and centers are issues worth addressing in the effort to understand and contain the costs of operating branches and centers.

Additional Needs

The data reviewed thus far reflect historical costs. Survey respondents were asked to estimate what additional noninstructional resources were needed, if any, to enable the branch campuses and centers to offer services/support that would be comparable to that offered by their respective main campuses. Their responses are judgments, of course, and as a rule it would inappropriate to attribute much precision to the figures provided. They are best considered in order-of-magnitude terms. As Table 8 shows, additional resources are thought to be most needed for library services, student services, and institutional support. On average, about $400,000 per branch or center is the estimated total need, with a range from zero to nearly $1.7 million. The total amount of estimated need for all of the branches and centers combined comes to about $28 per student credit hour, or about 12 percent of total expenditures per student credit hour in 1986-87. If forthcoming, the additional funds would add significantly to the differential between student services and institutional support costs at the branch campuses and centers compared to the main campuses. Institutional support costs would be roughly 150 percent higher at the branches and centers, using the median values shown in Table 1, Panel A.

Summary

In summary, several functions at the branch campuses and centers appear to be more expensive on a unit basis than at the main campuses. It also appears that scale effects are working against the branches and centers: their relatively small size is driving up unit costs at this stage of their development.

All things considered, the scale effects suggest a strategy that would insure that at least mature branches and centers are reasonably sized. Evidence suggests that the bulk of economies of scale are attained by typical four-year institutions by the time they reach 1500 or so full-time-equivalent students (Brinkman and Leslie 1986). That figure might be a useful long-term target for the minimum expected enrollment at a proposed branch or center, although one would need to think through carefully any relevant differences between the typical, free-standing institution and branch campuses or centers. For

Table 8. University Branch Campuses and Centers: Estimates of Additional Resources Needed to Match the Level of Services at the Main Campus

A. Distribution of Sample Results

Function	Minimum	Maximum	Mean	Median
Library-Audio Visual	$0	$553,525	$133,686	$73,000
Student Services	0	331,306	107,632	104,000
Institutional Support	0	702,000	145,757	113,000
Plant O & M	0	305,000	74,276	22,000
Other	0	99,000	13,500	0
Total	0	1,675,831	474,850	376,000

B. Stand-Alone Versus Joint-Use Facilities

Function	Stand-Alone Facility Mean	Joint-Use Facility Mean	Stand-Alone Facility Median	Joint-Use Facility Median
Library-Audio Visual	$143,086	$124,286	$60,000	$85,000
Student Services	116,231	99,033	100,000	107,000
Institutional Support	203,656	87,857	146,000	40,000
Plant O & M	75,694	72,857	89,000	0
Other	0	27,000	0	0
Total	538,667	411,033	349,000	403,000

C. Estimate of Total Resources Needed

Function	Stand-Alone Facility Total	Joint-Use Facility Total	Overall Total	Total Per SCH
Library-Audio Visual	$1,001,604	$870,000	$1,871,604	$8
Student Services	813,618	693,230	1,506,848	6
Institutional Support	1,425,591	615,000	2,040,591	9
Plant O & M	529,857	510,000	1,039,857	4
Other	0	189,000	189,000	1
Total	3,770,670	2,877,230	6,647,900	28

example, in instruction the diversity of the curriculum interacts strongly with scale effects. If campuses are to remain small, they can still be relatively economical in the instructional area if the curriculum can be limited; i.e., if the students are spread across a modest number of programs. Of course, as noted earlier, economic considerations are not the only matters of concern, since geographical access is not just a matter of access to institutions but to programs as well.

Joint-use facilities would seem to have the potential to be relatively economical, even though, on the basis of the survey results, they do not seem to be there yet. Scale effects are again important to keep in mind in devising cost-minimization strategies, but the particular arrangements in a given situation will probably be at least as decisive, or even more so, with respect to subsequent unit costs. There is a danger that some joint-use arrangements will achieve economies through offering sub-standard services (measured against the main campus or even other branch campuses or centers). Library services are perhaps the most vulnerable to this possibility. From our perspective, this would not necessarily be bad. It would be if it just happened. It might not be if it happened by design.

The issue of allocating main campus costs to branches and centers remains important, of course, in any attempt to determine the "true costs" of operating branches and centers. We think that the direction taken to analyze each function in terms of its various sub-activities is correct, and that it will serve to enlighten both internal management and other interested parties such as PEPC and the Legislature.

B. Community Colleges

As indicated in Florida statute, community colleges do not have branch or main campuses. Rather, their preferred alternative to a single campus is a multicampus arrangement combined with some centralized activities that provide services for all of the campuses. This clearly is the dominant pattern among Florida's community colleges. As a consequence, the thrust of this portion of the cost study is essentially one of adding to the base of knowledge about cost behavior at community college campuses, rather than about the relationship between main campuses and their branches or centers. Virtually all of the cost analysis that is currently done for the system of community colleges in the State is done at the institutional rather than the campus level. National data, such as those collected by the Federal government, also are at the institutional level. Thus, the survey data themselves and the brief analysis that follows below do break some new ground in cost analysis for this sector.

Unit Expenditures

Table 9 presents basic unit expenditures data for the sample of campuses surveyed. With a few exceptions, data from all of the 20 campuses responding to the survey are represented in the summary figures shown in this and subsequent tables on the community colleges. Mean values usually are reasonably good indicators of central tendencies for this group and thus medians are not shown.

As the data in Table 9 show, there are once again very considerable

Table 9. Expenditures at Selected Community College Campuses, 1986-87

Function	Minimum	Maximum	Max:Min	Mean
A. Expenditures per Student Credit Hour				
Instruction	$34	$86	2.5	$48
Academic Administration	4	12	3.0	7
Learning Res-Educ Media	3	10	3.6	5
Student Services	6	27	4.7	14
Institutional Support	16	35	2.2	22
Plant O & M	0	43	---	13
All Support	41	110	2.7	61
All Functions	79	168	2.1	109
B. Expenditures per Headcount Student				
Instruction	336	1,474	4.4	712
Academic Administration	45	172	3.8	106
Learning Res-Educ Media	30	175	5.9	81
Student Services	98	306	3.1	191
Institutional Support	168	592	3.5	328
Plant O & M	0	590	---	197
All Support	432	1,552	3.6	902
All Functions	784	2,630	3.4	1,614
C. Expenditures per FTE Staff Position				
Instruction	30,171	56,766	1.9	42,853
Academic Administration	25,351	60,739	2.4	40,984
Learning Res-Educ Media	25,537	47,798	1.9	31,527
Student Services	22,473	42,476	1.9	32,649
Institutional Support	36,577	68,612	1.9	47,455
Plant O & M	0	72,370	---	28,896
All Support	27,702	46,311	1.7	36,297
All Functions	30,558	44,884	1.5	38,417
D. Equipment Acquisition Cost per Student Credit Hour				
Instruction	0	23	---	11
Academic Administration	0	9	---	2
Learning Res-Educ Media	0	34	---	7
Student Services	0	31	---	4
Institutional Support	0	114	---	10
Plant O & M	0	3	---	1
All Support	0	150	---	24
All Functions	0	150	---	37

differences in unit costs among the campuses. As was true for the universities, expenditures are "unitized" in a number of ways, and some ways fit a particular area or type of expenditure better than others. For instance, in the case of instruction a student credit hour is usually a better unit of activity, or workload, than is headcount enrollment, but the reverse is generally true for student services. For either measure of activity, as shown in Panels A and B, differences at the extremes typically run about three to one (maximum divided by minimum), with the range for some functions being considerably higher.

With the exception of plant expenditures, the differences are more modest for expenditures per FTE staff position (Panel C) than for expenditures per student credit hour (Panel A) or per headcount student (Panel B). This indicates that spending patterns among the campuses are more varied for other objects of expenditure than those related directly to FTE staff. As discussed in the introductory section of the report, variations in program, clientele, and other aspects of particular campus arrangements can be expected to lie behind such expenditure differences. It so happens, for instance, that the three campuses with by far the highest costs per student credit hour include two of the smallest campuses in the sample and a campus devoted to training in health care fields. This study was not designed, however, to evaluate the relative impact of these factors; to do so would require substantially more work.

The rather remarkable fact that one operating unit could get by without any expenditures for equipment (Panel D) is an artifact of a joint-use arrangement. The operating unit in this instance is Okaloosa-Walton's joint effort with the University of West Florida. OWJC actually did record equipment expenditures, but they were too modest (per student credit hour) to show up in Panel D. Apart from this unique situation, the campuses on the low end of overall spending for equipment were in the $10 to $20 range per student credit hour.

Expenditure Ratios

As the data in Table 10, Panel A, show, differences in the ratios of support to instruction expenditures were about the same order of magnitude as differences in cost per student credit hour or per student headcount. In almost every instance high ratios were found at the smaller institutions and low ratios at the larger institutions. One would expect to see this pattern. Compared to instruction, it is usually the case that a relatively large proportion of support costs are fixed, i.e., they do not vary with enrollment size (at least over some relevant range). For the group, total support costs averaged about 130 percent of instruction costs, which is slightly below the median value of 138 percent for university branches and centers (Table 2).

There are no peculiarities in Panel B of Table 10, where data on the proportion of total expenditures that occur at the campus itself are displayed. The allocation of expenditures for central-office activities was done on a student credit hour basis. That is, the larger the campus in relation to the institution as a whole, the larger its share of central-office expenditures. As the data indicate, virtually all expenditures for instruction occur on site, while most (all but 22 percent) of the cost of institutional support, or general administration, is incurred at the central

Table 10. Expenditure Ratios at Selected Community College Campuses, 1986-87

Function	Minimum	Maximum	Max:Min	Mean
A. Support Expenditures / Instruction Expenditures				
Academic Administration	0.07	0.23	3.4	0.16
Learning Res-Educ Media	0.07	0.18	2.6	0.11
Student Services	0.16	0.54	3.4	0.28
Institutional Support	0.30	0.72	2.4	0.47
Plant O & M	0.00	0.75	---	0.27
All Support	0.78	1.92	2.5	1.30
B. Campus Expenditures / Total Expenditures (campus plus allocation from central office expenditures)				
Instruction	0.85	1.00	1.2	0.97
Academic Administration	0.40	0.82	2.1	0.64
Learning Res-Educ Media	0.00	1.00	---	0.80
Student Services	0.27	0.84	3.1	0.66
Institutional Support	0.05	0.60	11.8	0.22
Plant O & M	0.58	0.98	1.7	0.84
All Support	0.23	0.80	3.4	0.53
All Functions	0.50	0.87	1.8	0.72

offices. Overall, nearly three-fourths of all expenditures are incurred by the operating units themselves, compared to slightly more than half for just the support (noninstructional) functions.

FTE Staff Productivity

Table 11 shows a variety of data on FTE staff positions. Utilization rates differ widely among the campuses (Panels A and B). True productivity rates are hidden because we do not have data on the number of adjunct staff who along with individuals included in the FTE staff count make up the full work force. Still, the differences are striking. Even when we look only at the "all functions" row, where differences are minimized, some campuses are more than twice as productive as others, when measured in credit hour terms, and 3.6 times as productive when measured in student headcount terms. Presumably these differences relate to different employment practices; for example, hiring a greater or lessor proportion of regular versus adjunct staff. Another employment practice that affects overall productivity is the number of staff used in support roles compared to the number of staff in instruction (Panel C). For support functions overall, there are about 1.5 FTE staff positions, on average, for every FTE staff position in instruction, but again there is considerable variation between the campus with the lowest ratio (.92) to the campus with the highest ratio (2.79). The corresponding figures (means and medians) for the university branches and centers were slightly higher for operations in joint-use facilities but nearly twice as high for stand-alone operations (Table 6, Panel D). Of course, the ratio of support to instructional staff is only partially a matter of choice, in that scale effects can have a major impact. Other things being equal, the ratio of support to instructional staff will be higher at small campuses.

The distribution of FTE staff positions between the campuses and the central office (Table 11, Panel D) is, as expected, very similar to the comparable distribution of expenditures. About three-fifths of all FTE support staff positions are found at the campuses, and nearly four-fifths of all FTE staff positions are at the campuses when support and instructional activities are combined.

Statistical Analysis

A series of regression models were run using the survey data in an effort to explain variations in cost among the campuses. The dependent variables used were campus total expenditures for instruction, institutional support, all support functions, and all functions. The independent variables included the ratio of on-site campus expenditures to total campus expenditures (i.e., on-site plus allocated expenditures from the central office) and total campus student credit hours.

The regression analysis produced the following results of interest (as shown in Table 12). As was true for the regression analysis of university branch campuses and centers, the coefficients on the variable total student credit hours are to be interpreted as elasticities. The estimated coefficients are less than one for support expenditures, indicating that the larger the campus in terms of student credit hours, the lower the cost per credit hour for institutional support and for the support areas taken as a whole. By contrast, the coefficient on instructional expenditures, 1.03, indicates that

Table 11. FTE Staff at Selected Community College Campuses, 1986-87

Function	Minimum	Maximum	Max:Min	Mean
A. Student Credit Hours per FTE Staff				
Instruction	404	1,662	4.1	910
Academic Administration	2,768	14,313	5.2	6,438
Learning Res/Educ Media	2,682	12,235	4.6	6,363
Student Services	1,260	4,236	3.4	2,462
Institutional Support	1,353	3,243	2.4	2,265
Plant O & M	1,326	5,052	3.8	2,577
All support	404	914	2.3	630
All functions	204	475	2.3	362
B. Headcount Enrollment per FTE Staff				
Instruction	24	116	4.9	68
Academic Administration	209	1,351	6.5	504
Learning Res/Educ Media	156	900	5.8	472
Student Services	81	295	3.6	184
Institutional Support	71	253	3.5	170
Plant O & M	77	477	6.2	193
All support	21	86	4.0	48
All functions	12	43	3.6	27
C. Support FTE Staff / Instructional FTE Staff				
Academic Administration	0.05	0.41	7.7	0.17
Learning Res/Educ Media	0.08	0.35	4.4	0.15
Student Services	0.23	0.79	3.4	0.40
Institutional Support	0.22	0.68	3.2	0.41
Plant O & M	0.00	0.76	---	0.36
All support	0.92	2.79	3.0	1.49
D. Campus FTE Staff / Total FTE Staff (campus plus allocation from district-wide activities)				
Instruction	1.00	1.00	1.0	1.00
Academic Administration	0.36	1.00	2.8	0.73
Learning Res/Educ Media	0.00	1.00	---	0.83
Student Services	0.19	0.83	4.4	0.67
Institutional Support	0.09	0.67	7.4	0.26
Plant O & M	0.59	1.00	1.7	0.84
All support	0.24	0.83	3.5	0.62
All functions	0.58	0.90	1.6	0.78

Table 12. Regression Analysis of Expenditures at Selected Community College Campuses, 1986-87

Dependent Variable	Independent Variables: On-Site Expenditures/ Total Campus Expenditures*	Independent Variables: Total Student Credit Hours	R-Squared
Total Expenditures			
Instruction	1.05 (0.84)	1.03 (22.46)	.97
Institutional Support	0.83 (3.90)	0.93 (38.17)	.99
All Support	1.20 (5.10)	0.94 (35.27)	.99
All Functions	1.00 (0.96)	0.95 (24.73)	.97

*Total campus expenditures include an allocated portion from the institution's central office expenditures.

typically the larger campuses spent slightly more for instruction than did the smaller campuses. This finding could an artifact of the model, which does not take into account the mix of programs at the campuses. If larger campuses have, on average, higher cost programs, such as those in the health care areas, this would explain why the model predicts higher costs per student credit hour at the larger institutions. In other words, for the campuses surveyed the program effect may be stronger than the normal economies-of-scale effect within the instructional area. When the dependent variable is total expenditures for all functions, the coefficient on total student credit hours is very close to 1. In other words, from an economic perspective the campuses have nothing to gain or lose by getting marginally larger or smaller; i.e., unit expenditures change proportionately with the number of units produced.

The regression results also indicate that campuses with a relatively large portion of their expenditures occurring on site, as opposed to at the central office, tend to have relatively high costs in the support areas. Taken literally, this would mean that, on average, support services are being provided more economically at the central offices than at the campuses. While it would not be appropriate to take this form of statistical evidence as definitive, this finding is of interest and should be pursued further.

Summary

In summary, individual community college campuses exhibit considerable differences in expenditures per credit hour or per headcount student, as well as in a variety of ratios of support costs to instructional costs, shares of expenditures incurred on site versus in the central office, and the productivity of FTE staff. As noted at the start, higher education services can be and are delivered in different ways. These data certainly bear that out. They also point to the utility of further and ongoing cost analysis designed to explain these differences in campus behavior.

Economies of scale were found only for support expenditures. This is further confirmation, if any were needed, that fixed costs are relatively high in the support areas as compared to instruction. This finding suggests that support areas may be a useful target for further analysis, analysis that would be designed to find ways to reduce the impact of fixed costs.

C. Joint-Use Facilities

Institutions participating in joint-use facilities were asked several additional questions on the survey. The questions focused on savings and additional expenditures that resulted because of participation in a joint-use facility, and the nature and extent of payments flowing among the participants. The results were somewhat sketchy. In four of eight joint-use arrangements, the university involved reported some savings, but in only two instances (UCF at Brevard Center and UCF at Daytona Beach) could these savings be assessed quantitatively. The savings amounted to $710,000 (in 1986-87) and occurred in library-audio visual services and in plant operation and maintenance. No additional expenditures were reported by any of the universities, so the $710,000 stands as a net figure for the group as a whole. Three other universities reported zero savings and zero additional expenditures. Only one community college (OWJC) reported either savings or additional expenditures. The figures were $164,000 and $122,000, respectively, or a net saving of $42,000. Another community college (Daytona Beach) reported an estimated dollar value of $10,200 for services they provided to UCF for which they received no reimbursement. They also indicated that a UCF request for additional library purchases could not be filled because no reimbursement was offered.

Only a few institutions in either sector reported payments from or to other institutions in the joint-use arrangement. The payments were spread among the various functions, but most had to do with libraries or plant operations.

These few data points do not add much to what was learned from the analysis reported on earlier in which expenditures at stand-alone and joint-use facilities were compared. In short, to this point there is not a lot evidence for savings at joint-use facilities. The savings that do occur are in the areas of libraries and plant operations.

Joint-use facilities are a difficult target for a cost study based on survey research. The underlying structures are complex and vary a great deal from one situation to another, and even from one year to another. The Broward situation in which three institutions (FAU, FIU, and BCC) are sharing two sites (Davie and Tower) is perhaps the extreme example of complexity. The OWJC-UWF facility is a good example of how things can change drastically. Those two institutions have been enjoying a situation in which the local school district has been providing them with a building essentially for free. The school district now has other plans for the building, so future plant costs, both capital and operating, will be quite different in that particular facility. Also, much that is of interest in these arrangements can only be addressed in a hypothetical fashion. Respondents must be asked, in other words, to estimate what might be the case if they had to provide this or that service. This is asking a lot, especially when one is hoping to obtain comparable data.

IV. Activities in Other States

Literature on branch campus or center costs in other states is virtually nonexistent. A telemail request for such information was sent out through the State Higher Education Executive Officers network. Responses were received from five states. A brief synopsis of their comments follows.

The University of Connecticut has five branch campuses. Each is given one page in the annual budget request document that is submitted to the Governor and the Legislature by the Board of Governors for Higher Education and the Department of Higher Education. The one page contains a budget summary by source of funds and a summary of positions by fund. With respect to general funds per FTE student, the branch campuses receive from 53 percent to 159 percent as much as is received by the main campus. The average size of the branch campuses is about 350 FTE students, or about 2.5 percent as large as the main campus. On average, the branch campuses received about $2 million in fiscal year 1986, or about 2.3 percent as much as the general funds going to the main campus.

In Minnesota, one of the community colleges operates an instructional center. While community colleges in Minnesota are funded through an enrollment driven formula, the Center is funded incrementally, with the base being established some years ago. In addition, there are two sparsely populated areas of Minnesota in which the community colleges have been grouped into regions in order to consolidate some administrative functions. One region consisting of five colleges has one president and consolidated administrative functions such as procurement, payroll, and personnel. The consolidation is expected to save about $350,000 in fiscal year 1988. There is less consolidation in the second region and only three colleges. Their savings are estimated to be about $77,000. Incidentally, the participating colleges are allowed to keep 70 percent of the savings.

Virginia has 8 institutions (3 four-year institutions and 5 community colleges) with multicampuses, and 2 four-year institutions with branch campuses. The main campuses are allocated additional staff for the extra campuses (those beyond one) in the areas of academic support, student services and institutional support. For student services and institutional support, the allocation consists of an additional classified FTE position and an additional administrative FTE position for each extra campus. Academic support receives one additional FTE position for each extra campus. The branch campuses receive no special funding; however, they happen to be at a (small) size that makes them eligible for the special funding guidelines for small colleges (four-year institutions with less than 2,500 FTE students or two-year institutions with less than 1,000 FTE students), which are somewhat richer than the regular funding guidelines. Nonetheless, the branch of the University of Virginia received general funds in 1987-88 that were only 70 percent of those received by the main campus on a dollars per FTE student basis (perhaps due primarily to differences in mission). William and Mary's branch did much better, as it received 98 percent as much in general funds per student as did the main campus.

There are three university branch campuses in Utah. Essentially, they take the form of centers for continuing education. The Board of Regents staff does collect cost-related data on these centers in a fashion similar to data on main campuses. The data are limited to the instructional area and consist primarily of student credit hours, FTE enrollments, student faculty ratios, and costs per student, all by level of instruction (comparative data were not provided).

The State of Washington has only two centers, one of which is quite small. Current year costs per FTE student at the two locations differed significantly ($2,444 versus $4,107) and were said to be roughly one-half of the per-student costs at the corresponding main campuses. It was noted, however, that the comparison was less than perfect because of differences in the way in which administrative costs were handled. The respondent noted that while the branch campus or center concept has not been widely embraced up to this point in Washington, the new draft master plan for the State does include an endorsement of the concept.

V. Conclusion

The findings for university branch campuses and centers can be summarized as follows:

1. Compared to their main campuses, branch campuses and centers tend to be less expensive per student credit hour for library services and

plant operations and maintenance, more expensive for institutional support and student services, and roughly comparable for instruction. As a proportion of instructional expenditures they spend more for institutional support and student services and less for library services and plant operations and maintenance than do the main campuses. It is important to keep in mind that these comparisons are approximations, not precise measures. Furthermore, the institutions estimate that a total of $6.6 million would be needed to bring services at the branches and centers up to the level provided at the main campuses.

2. Branch campuses and centers consistently exhibit large differences among themselves on virtually all indicators of cost whether those indicators be expenditures per student credit hour or per headcount student, or ratios of support to instructional expenditures, or on-site costs versus expenditures allocated from the main campus.

3. Branch campuses and centers in stand-alone facilities and those in joint-use facilities exhibit a wide range of cost behavior. Comparing median values for the two groups, the branches and centers in joint-use facilities have lower unit expenditures, as one would expect, in the areas of library services and plant operations and maintenance. Instructional costs per student credit hour are somewhat higher at the joint-use facilities. Care must be taken in interpreting these results, because expenditure patterns at joint-use facilities are subject to a variety of unique and readily changeable circumstances.

4. Looked at statistically, the branches and centers as a group show evidence of diseconomies of size. In other words, their size works against them from a cost perspective. Their costs per student credit hour would tend to be lower if their enrollments were higher.

For university branch campuses and centers, we suggest several broad strategies to follow in the effort to minimize costs:

1. Look for ways to reduce the cost of coordination and the movement of human resources inherent in the multiple site structure.

   By its very nature, the multiple site structure entails a set of coordination and delivery costs that are over and above operating costs at a single campus: Administrators and academic leaders on the two (or more) sites have no choice but to communicate and make decisions together from time to time; faculty from the main campus are likely to teach at the branches or centers; and faculty at the branches or centers will want to use the facilities (library, research equipment) at the main campus at least occasionally and more likely with some regularity. The evidence suggests that the costs involved in the required travel are significant. Therefore, it makes sense to direct cost minimization strategies toward these incremental costs for coordination and the movement of human resources. Such strategies could involve nothing more than establishing limits on the distance between a main campus and its branches or centers. Electronic communications offer possibilities as well, if the capital investments can be handled.

2. In accord with state goals for access to higher education:

   a. Restrict the nature and extent of the curriculum.

      The nature of the curriculum has a direct bearing on unit costs and therefore must be included in any complete set of strategies for containing costs. As a rule, the higher the level of instruction the higher the cost per student credit hour, and some programs are inherently more expensive than others on a student credit hour basis. The impact on costs of the breadth and depth of the curriculum, however, always occurs in tandem with the size of the overall instructional operation. Small size coupled with an extensive curriculum virtually guarantees high unit cost. Thus curriculum planning for branches and centers must be linked carefully with estimates of student demand. Some limits may have to be placed on the goal of providing programmatic access.

   b. Target at least some support services at minimally adequate levels rather than at main campus levels.

      If the costs of coordination and sharing resources among campuses and centers are to be offset, it is likely that some support services will have to be curtailed relative to main campus standards. Joint-use facilities offer an example of how services in two areas, libraries and physical plant, can be provided at less cost than at stand-alone branches or centers. At the same time, the level of services at branch campuses and centers should meet minimum standards with respect to the curriculum and the students being served. What we are suggesting is that for some support services minimum standards may be a more appropriate target than the level of service offered at the main campus.

   c. Establish minimum enrollment targets.

      Minimum enrollment levels already exist for centers and campuses within the community college system. It would be worth considering setting targets for the university branches and centers as well. Any such target setting should be done in close concert with curriculum planning for the branches and centers.

3. Routinely compare the costs and effectiveness of duplicating main campus services, using main campus services as needed, sharing resources with another institution to produce services on site, and changing the level of service.

   We would caution against assuming that adequacy can be achieved only through duplication of main campus resources. Instead, we suggest a thorough exploration of alternative means of making main campus resources more accessible at the branches and centers. For the library, as an example, various means of electronic transfer of materials may be a cost-effective way of augmenting relatively small on-site collections at the branches and centers. As another example, career guidance could be provided in large part through computer terminal access to main campus software programs. In general, we are suggesting that creative responses are needed rather than a "business as usual" approach. Some of these responses may require additional capital outlays in the short run.

4. Continue to examine and develop procedures for allocating costs from the main campuses to the branch campuses and centers.

   It is important that reasonably accurate and reliable cost information on branch campuses and centers be available. It is needed for state planning purposes and for internal management purposes as well. But such information is not easily obtained. It cannot be overemphasized that determining the costs of operating a branch campus or center is not a simple matter. Allocation of main campus expenditures to the branches and centers is particularly challenging. While the allocation procedures developed for this study are a significant step in the right direction, it remains unclear whether the procedures are sufficiently sensitive to differences among institutions. Thus we suggest ongoing efforts to improve these procedures. At the same time, we would note that there are limits to the precision with which these allocations can be done, and that at some point further effort will become wasteful.

The findings for community college campuses can be summarized as follows:

1. There was considerable variation among the campuses in expenditures per student credit hour or per headcount student in every area examined. The variation was particularly large in instruction. For all functions combined, the most expensive campus spent 2.7 times as much per student credit hour than the least expensive campus. When similar comparisons were made in terms of student credit hours or student headcount per FTE staff position, differences among the campuses were again substantial.

2. Central office resources were allocated to the individual campuses in an institution in proportion to the student credit hours generated by each of the campuses. The on-site share of total campus expenditures was highest in instruction, plant operations and maintenance, and library resources, and lowest in institutional support. Among campuses, the greatest variation in the share of total expenditures occurring on site was in institutional support. Evidence was found that at least some support services are less expensive when provided centrally than when they are provided on site at the campuses. The evidence was developed as part of a simple statistical analysis and ought not be taken as definitive.

For community colleges, we suggest two strategies to follow in the effort to minimize costs:

1. Better understand cost variations among campuses; emulate good practice whenever possible.

The variations in unit costs among the campuses are large. As such, they may offer an opportunity for cost savings. We would suggest that cost analysis efforts be directed toward better understanding these variations, especially between the very high cost and the very low cost operations. We do not doubt that some, if not most, of these variations can be explained in terms of differences in programs, students, or other circumstances about which little can be done. But some examples of especially good practice, economically speaking, may also be discovered, which could be shared with, and then emulated by, other campuses. The modest effort undertaken as part of this study could be a starting point for such ongoing investigations. The new community college cost analyses formats that have come on stream quite recently have great promise, but they would have to be employed at the campus rather than the institutional level. The campus level of analysis may reveal aspects of the economics of operating community colleges which would be invisible at the more highly aggregated institutional level of analysis.

2. Further explore the relative efficiencies of centrally produced support services versus services produced at the campuses.

   An example of a campus phenomenon that remains completely hidden at the institutional level of analysis is the relationship between centrally supplied services and those same services produced and provided locally at the campus. As noted, some evidence was found suggesting that the centrally produced services were less expensive when taking into account the size of the campuses. This finding is worth further investigation. Similarly, the electronic and information revolution of recent times means that alternative technologies are available for "connecting" campuses with central offices (and each other). It is reasonable to assume that some approaches will be more cost effective than others. While much of this is properly the concern of institutional management, the State Board of Community Colleges and PEPC could be helpful in promoting certain forms of cost analysis and in facilitating the sharing of results among the institutions, and, on occasion, undertaking studies of their own that can only be done by gathering and analyzing data from a number of campuses.

References

Brinkman, Paul T. "Instructional Costs per Student Credit Hour: Differences by Level of Instruction." Boulder, CO: National Center for Higher Education Management Systems, November, 1985.

Brinkman, Paul T., and Leslie, Larry L. "Economies of Scale in Higher Education: Sixty Years of Research." The Review of Higher Education, 10, 1 (Fall 1986): 1-28.

APPENDIX B

Survey Instruments Developed for Generating Costs

POSTSECONDARY EDUCATION PLANNING COMMISSION

Branch Campus and Center Cost Study

Instructions for Completing Survey Form

1. Educational and General Expenditures (except for Nursing and Public Health at the University of South Florida): Include general revenue and incidental trust expended in 1986-87.

2. In column (1), the cost categories (programs and line items) are defined the same as in the document "A Report to the Legislature on a Plan to Modify the Annual Expenditure Analysis (January 30, 1987; p. 17-21)." Please note the following:

   a. Include instructional (or academic) computing under Instruction and Research (I&R).

   b. Include academic advising under I&R.

   c. Report Academic Administration separately: Include all academic administrative activities above those of department chairs (i.e. Dean, Associate Deans).

   d. Report Library/Audio Visual as a separate program.

3. For the inventory line in Column (1), show the total acquisition cost for all equipment in the Branch/Center inventory from start-up thru 1986-87.

4. In columns (2) and (4), use the standard man-year approach for calculating the number of FTE positions. For example, a faculty member who is full-time in fall and spring (the standard 9-month contract) counts as .75 FTE. The FTE columns should contain Faculty, A & P , and USPS and displayed at two significant digits.

5. In columns (2) and (3), divide the FTE and Salary and Benefits (and any related costs) of the chief officer at the Branch/Center between Academic Administration and Institutional Support in accord with an estimate of the amount of time this person devotes to academic matters versus other administrative duties.

6. In column (5), for in-load Main Campus faculty include one-eighth (1/8) of the faculty member's Salary and Benefits for each course taught at the Branch Campus (or Center). For over-load Main Campus faculty include the actual payments to the faculty for teaching at the Branch/Center, if the payments are recorded in Main Campus accounts.

7. In column (5), estimate Expenses/EDP by using the university average of Expenses and EDP per faculty man-year multiplied times the number of faculty man-years contained in column (4), plus Expenses for which there is an audit trail (for example, reimbursements for travel costs for faculty from the Main Campus).

8. The Library/Audio Visual category includes non-I&R resources associated with the on-site functions of a campus library, an audio-visual center, or a learning resource center.

PEPC #1

9. The Student Services category includes non-I&R resources associated with the on-site functions of admissions, records and registration, financial aid, personal and career counseling, job placement, and other services to students.

10. The Institutional Support program component should include the following functions:

    a. Executive Management - This category includes non-I&R resources associated with administrative support services. Typically, this would include the professional position of "Director of Administrative Services," associated support positions, and associated support resources budgeted in the Director's office. Include portion of chief campus officer efforts devoted to institutional support. (Exclude I&R Deans, Associate Deans, etc.)

    b. Financial Operations - This category includes non-I&R resources associated with the functions of Finance and Accounting (cashier, accounts receivable, accounts payable, contracts and grants, budgeting, etc.). Include all positions and support resources associated with these or other financial activities.

    c. Business Operations - This category includes non-I&R resources associated with the functions of purchasing, personnel, administrative data processing, and other business support services.

    d. University Security - This category includes non-I&R resources associated with the functions of public safety, building security, law enforcement, and other crime prevention services.

    e. University Relations - This category includes non-I&R resources associated with the functions of community relations, fund-raising activities, publications, media relations, and governmental relations.

11. The Plant Operations and Maintenance category includes non-I&R resources associated with the functions of grounds, custodial, utilities, maintenance, telecommunications, and other facility related functions. For Plant Operation and Maintenance, if the Branch/Center contracts for these services, most costs will be recorded as an Expense. If a contract exists, please indicate its essential features in a footnote.

12. Column (6) is the total of (2) plus (4); (7) is the total of (3) plus (5).

13. Total support is the sum of expenditures for all programs except I&R.

POSTSECONDARY EDUCATION PLANNING COMMISSION

Branch Campus and Center Cost Study

Educational and General Expenditures
Survey Form

Name of Main Campus ____________________
Name of Branch Campus (or Center) ____________________

1986-87 Expenditures

	Branch/Center Accounts		Main Campus Accounts for Branch/Center		Branch/Center Totals	
Name of Program (1)	FTE Positions (2)	Dollars (3)	FTE Positions (4)	Dollars (5)	FTE Positions (6)	Dollars (7)
Instruction & Research						
Salaries & Benefits	____	____	____	____	____	____
OPS		____		____		____
Expenses/EDP		____		____		____
OCO		____		____		____
Other		____		____		____
Total		____		____		____
- Acquisition cost of equipment inventory $____						
- If available, total cost of academic computing (do not ADD) $	____		$ ____		$ ____	
Academic Administration						
Salaries & Benefits	____	____	____*	____*	____	____
OPS		____		____*		____
Expenses/EDP		____		____*		____
OCO		____		____*		____
Other		____		____*		____
Total		____		____*		____
Acquisition cost of equipment inventory $____						
Library/Audio Visual						
Salaries & Benefits	____	____	____*	____*	____	____
OPS		____		____*		____
Expenses/EDP		____		____*		____
OCO		____		____*		____
Other		____		____*		____
Total		____		____*		____
Acquisition cost of equipment inventory $____						

PEPC #3

1986-87 Expenditures

Name of Program (1)	Branch/Center Accounts FTE Positions (2)	Branch/Center Accounts Dollars (3)	Main Campus Accounts for Branch/Center FTE Positions (4)	Main Campus Accounts for Branch/Center Dollars (5)	Branch/Center Totals FTE Positions (6)	Branch/Center Totals Dollars (7)
Student Services						
Salaries & Benefits	____	________	____*	________*	____	________
OPS		________		________*		________
Expenses/EDP		________		________*		________
OCO		________		________*		________
Other		________		________*		________
Total		________		________*		________
Acquisition cost of equipment inventory	$____________					
Institutional Support						
Salaries & Benefits	____	________	____*	________*	____	________
OPS		________		________*		________
Expenses/EDP		________		________*		________
OCO		________		________*		________
Other		________		________*		________
Total		________		________*		________
Acquisition cost of equipment inventory	$____________					
Plant Operation and Maintenance						
Salaries & Benefits	____	________	____*	________*	____	________
OPS		________		________*		________
Expenses/EDP		________		________*		________
OCO		________		________*		________
Other		________		________*		________
Total		________		________*		________
Acquisition cost of equipment inventory	$____________					
Total Support	____	________	____	________	____	________
I&R + Support	____	________	____	________	____	________

*To be supplied by BOR office.

Name of Contact Person Completing this Survey ______________________________

Contact Phone Number ____________________

ADDITIONAL DATA:

a. Gross square feet of Branch/Center in 1986-87 (to be provided by Host institution only): ______________.

b. Gross square feet used by your university in 1986-87:_____________.

c. Total funded student credit hours at Branch/Center in 1986-87:
    Lower division ____________
    Upper division ____________
    Graduate ____________

Fall 1986 headcount enrollment ____________

d. Total funded student credit hours at Main Campus in 1986-87:
    Lower division ____________
    Upper division ____________
    Graduate ____________

Fall 1986 headcount enrollment ____________

e. Course Schedule for the Branch/Center, Fall Term (this year and last, if possible)

f. The survey data will take the form of line-item totals. Typically, these totals will be the sum of expenditures in two or more accounts. In the case of Student Services, for example, expenditures would be picked up from accounts for counseling, the registrar, the financial aid office, and so on. To help ensure data compatibility, please attach a list of the account numbers that were used to generate the figures shown on the survey. List the account numbers by program (Instruction, Academic Administration, etc.).

g. The data requested above are for 1986-87. If there have been changes since then in the Branch/Center or the Main Campus which will affect the cost of operating the Branch/Center, please describe these changes below. If possible, provide an estimate of the cost implications of these changes for expenditures in 1987-88. An example of such a change would be the addition of staff in student services at the Branch/Center. Please attach additional pages if needed.

____
____
____
____
____
____

h. Estimate the dollar value of the additional (noninstructional) resources, if any, that your Branch/Center needs in order to provide students and faculty with a level of services/support comparable to that offered by the Main Campus: $ _____________.

Allocate those needs across the following functions:

a. Library/Audio Visual ____________
b. Student Services ____________
c. Institutional Support ____________
d. Plant Operation & Maintenance ____________
e. Other (please specify) ____________

If this Branch/Center is NOT part of a Joint Use Facility, please proceed to page 9 and complete the Addendum for the BOR Budget Office.

If this Branch/Center IS part of a Joint Use Facility, would you please answer several additional questions on the next two pages and then proceed to page 9.

The following questions are for a University Branch Campus or Center that provides instructional services within a Joint Use Facility.

Name of institution(s) sharing the facility with you:

____

1. Estimate the gross operating savings that your Branch/Center enjoyed in 1986-87 BECAUSE it was located in a Joint Use Facility: $__________.

   Allocate those savings across the following functions:

   a. Library/Audio Visual __________
   b. Student Services __________
   c. Institutional Support __________
   d. Plant Operation & Maintenance __________
   e. Other (please specify) __________

   ____

2. Estimate the added operating costs that your Branch/Center incurred in 1986-87 BECAUSE it was located in a Joint Use Facility: $__________.

   Allocate those additional costs across the following functions:

   a. Library/Audio Visual __________
   b. Student Services __________
   c. Institutional Support __________
   d. Plant Operation & Maintenance __________
   e. Other (please specify) __________

   ____

3. Estimated net savings are (item 1 minus item 2): $__________.

   Could the other institution(s) participating in the Joint Use Facility readily supply those additional services if your Branch/Center had the funds to purchase them? Yes or No. Comments:

   ____
   ____
   ____
   ____

4. Indicate the total payments (for services rendered) that your Branch/Center received in 1986-87 from the other institution(s) participating in the Joint Use Facility:

   Allocate those payments across the following functions:

   a. Library/Audio Visual __________
   b. Student Services __________
   c. Institutional Support __________
   d. Plant Operation & Maintenance __________
   e. Other (please specify) __________

   ____